SAMSUNG

SYSTEM AIR CONDITIONER

	INDOOR UNIT	OUTDOOR UNIT
Model :	AC052FBMDEH/EU	AC052FCADEH/EU
	AC071FBMDEH/EU	AC071FCADEH/EU
	AC090FBMDEH/EU	AC090FCADEH/EU
	AC100FBMDEH/EU	AC100FCADEH/EU
		AC100FCADGH/EU

SERVICE *Manual*

AIR CONDITIONER

AC052FBMDEH/EU,AC071FBMDEH/EU,
AC090FBMDEH/EU,AC100FBMDEH/EU

AC071FCADEH/EU

AC090FCADEH/EU
AC100FCADEH/EU
AC100FCADGH/EU

AC052FCADEH/EU

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Refer to the service manual in the GSPN(see the rear cover) for the more information.

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1. Precautions

1-1 Precautions for the Service

- **Use the standard parts when replacing the electric parts.**
  – Confirm the model name, rated voltage, rated current of the electric parts.

- **When repairing the equipment, connection of the harness parts must be firm and solid.**
  – A loose connection may cause noise or other malfunction.

- **When assembling and disassembling the equipment while it is laid down, lay it on soft cloth.**
  – Otherwise it may scratch the back of the exterior of the product.

- **Remove dust or dirt completely from the housing block, wiring block and service parts during repair.**
  – This helps prevent the danger of fire caused by tracking or short circuit.

- **Fasten the valve caps of service valves and charging valves of outdoor unit as much as possible using adjustable wrenches.**

- **Check the status of the components' assembly after repair service.**
  – The status must be the same as before the repair service.

1-2 Precautions related to static electricity and PL

- **The PCB power supply block is susceptible to static electricity. Therefore, care must be taken during repair or measuring while the power is on.**
  – Wear insulation gloves for PCB repair or measuring.

- **Check whether the installation location is at least two meters away from other electronic products such as TV, video, or audio.**
  – Otherwise, the video quality might be degraded or noise might be generated.

- **Do not let end users repair the products themselves.**
  – Unauthorized disassembly might cause electric shock or fire.

1-3 Precautions related to product safety

- **Do not pull the power cord and do not touch the power plug or aux power switch with wet hands.**
  – It might cause electric shock or fire.

- **A damaged power line or power plug must be replaced to prevent danger.**

- **Do not bend the power cable with excessive force, and do not place a heavy weight on the case as it might damage the cable.**
  – It might cause electric shock or fire.

- **Do not use multiple electric outlets.**
  – This might cause electric shock or fire.

- **Connect the ground terminal when necessary.**
  – You must connect the ground terminal if you determine that there is a danger of electric leakage due to moisture or water.

- **Unplug the power cable or turn off the auxiliary power switch for electric part replacement and repair service.**
  – Otherwise it might cause electric shock.

- **Instruct end users to separate the batteries from the remote controllers and store them separately when the product is not used for long time.**
  – Otherwise leakage from the dry cell may cause problems with the remote controller.

1-4 Other precautions

- **The pipes should have no leaks during installation, and the compressor must be stopped before removing connecting pipes for pump down work. Operating the compressor while the service valve is open and coolant pipe is not properly connected may cause explosion or injury due to abnormal high pressure created inside the coolant cycle as the air can be absorbed through the pipe.**

- **Pump Down work procedure (When uninstalling the product)**
  – Turn on the air conditioner, select cooling operation, and run the compressor for more than three minutes.
  – Release the high pressure and low pressure valve caps.
  – Close the high pressure valve completely using an L-wrench
  – After about two minutes, close the low pressure valve completely.
  – Stop running the air conditioner.
  – Separate the connecting pipe.

2. Product Specifications

2-1 The Feature of Product

■ **Built-in Cassette Type**

After installed, the air conditioner can be harmonized with a room interior.

■ **High Performance & Energy Saving**

With the advanced BLDC inverter technology, it makes a room cool with highly energy saving and arises the efficiency of air conditioner.

■ **Long Piping(Length & Height)**

It can give the benefit to the installers and aries the reliability of the air conditioner.

■ **Long Ambient Operation(In Low Temperature)**

It can arise the reliability and the capacity of the air conditioner, especially operated in low temperature.

■ **Eco-friendly Product(Lead-Free, RoHS, WEEE)**

2-2 Product Specifications

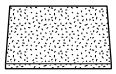
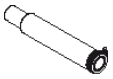
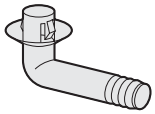
ITEM				AC052FBMDEH/EU AC052FCADEH/EU	AC071FBMDEH/EU AC071FCADEH/EU
IMAGE	Indoor Unit				
	Outdoor Unit				
	Remote Controller				
Power Specifications				1Φ, 220~240V,50Hz	
Size	Indoor	W x H x D	mm	900x260x480	1150x480x260
	Outdoor	W x H x D	mm	750x548x285	880x310x798
Weight	Indoor Unit		kg	28.0	31.5
	Outdoor Unit		kg	38.5	55.0
Capacity	Cooling(STD)		W	5000	7100
	Heating(STD)		W	6000	8000
Power Consumption	Cooling(STD)		W	1560	2210
	Heating(STD)		W	1660	2220
Operation current	Cooling(STD)		A	7.5	10.5
	Heating(STD)		A	7.8	10.5
Sound Power (Cooling/ Heating)	Indoor	In case of strongest air blow	dBa	60	65
	Outdoor	In case of strongest air blow	dBa	64	66
Refrigerant (R410A)			g	1400	1800
Connecting Pipe		Liquid	mm	1/4"	1/4"
		Gas	mm	1/2"	5/8"
Additional Refrigernat (R410A)			g/m	10	25
Standard			m	5	5
Extension length(Total)			m	30	50
Extension length(Elevation)			m	20	30
Option Code			Product Option	011014-19626E-27343C-370010	011017-1563A2-274750-370010
			Installation Option	020000-100000-200000-300000	020000-100000-200000-300000

Product Specifications (cont.)

ITEM				AC090FBMDEH/EU AC090FCADEH/EU	AC100FBMDEH/EU AC100FCADEH/EU	AC100FBMDEH/EU AC100FCADGH/EU
IMAGE	Indoor Unit					
	Outdoor Unit					
	Remote Controller					
Power Specifications				1Φ, 220~240V,50Hz		3Φ,380~415V,50Hz
Size	Indoor	W x H x D	mm	1150x480x320		
	Outdoor	W x H x D	mm	940x330x998		
Weight	Indoor Unit		kg	35.0		
	Outdoor Unit		kg	72.0		
Capacity	Cooling(STD)		W	9000	10000	
	Heating(STD)		W	10000	11200	
Power Consumption	Cooling(STD)		W	2800	3215	
	Heating(STD)		W	2770	3100	
Operation current	Cooling(STD)		A	13.0	15.2	5.4
	Heating(STD)		A	12.5	13.5	5.2
Sound Power(Cooling/ Heating)	Indoor	In case of strongest air blow	A	65	65	65
	Outdoor	In case of strongest air blow	A	67	68	68
Refrigerant (R410A)			g	3000	3000	3100
Connecting Pipe		Liquid	mm	3/8"	3/8"	3/8"
		Gas	mm	5/8"	5/8"	5/8"
Additional Refrigernat (R410A)			g/m	50	50	50
Standard			m	5	5	5
Extension length(Total)			m	50	50	50
Extension length(Elevation)			m	30	30	30
Option Code			Product Option	011034-15617C-275A64-350000	011034-15617C-276470-370000	
			Installation Option	020000-100000-200000-300000	020000-100000-200000-300000	

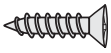
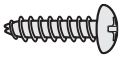
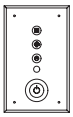
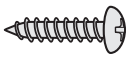
2-3 Specifications of optional items

2-3-1 Accessories

Item	Descriptions	Code-No.	Q'TY	Remark
	Wired remote controller	DB97-15070D	1	Indoor Unit
	Owner's Manual	DB98-32657A	1	
	Installation Manual	DB98-03356A	1	
	Insulation-Cover Band	DB62-04318S	1	
	Insulation-Drain Hose	DB62-11028A	1	
	Insulation-Hose D	DB62-11028E	1	
	Insulation-Tube Out	DB62-11028F	1	
	Cable-tie	DB65-10088C	8	
	Grommet-Hanger	DB63-00237A	8	
	Ass'y Drain Hose Joint	DB94-03287A	1	
	RUBBER LEG	DB73-20134A	4	Outdoor unit
	DRAIN PLUG	DB67-20011A	1	AC071FCADEH
		DB67-00477A	1	AC052FCADEH
		DB67-00806A	1	AC090FCADEH AC100FCADEH AC100FCADGH
	Installation manual	DB98-32793A	1	AC090FCADEH AC100FACADEH AC100FACADGH
		DB68-03464A	1	AC052FCADEH AC071FCADEH

Accessories (cont.)

■ Receiver & display unit & Wire kit

Item	Descriptions	Code-No.	Q'TY	Remark
	Receiver & display unit	DB93-00449A (MRK-B00)	1	Concealed type
	STS 2S-2x10 Tapped Screw	-	4	
	2S-4x12 Tapped Screw	-	2	
	User's manual	DB98-05160A	1	
	Installation manual	DB98-05186A	1	
	Wire kit	DB39-00223A (MRW-10A)	1	
	Receiver & display unit	DB93-01066A (MRK-A00)	1	Standard type
	M4x12 Tapped Screw	-	7	
	Cable-tie	-	2	
	User's manual	DB98-04184A	1	
	Installation manual	DB98-04189A	1	
	Wire kit	DB39-00223A (MRW-10A)	1	

Accessories (cont.)

■ Wireless remote controller

Item	Descriptions	Code-No.	Q'TY	Remark
	Wired remote controller	DB97-14333C (MWR-WH02)	1	Optional
	Cable tie	DB65-10088B	2	
	Cable clamp	DB65-10074E	5	
	M4×16 Tapped Screw	6002-000474	7	
	Indoor unit power drawing cable	DB39-00221A	1	
	Communication cable of thewired remote controller	DB39-00933A	1	
	Wire joint	DB39-90020A	1	
	User's manual	DB98-25179A	1	
	Installation manual	DB98-25180A	1	

Accessories (cont.)

■ Centralized controller

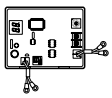
Item	Descriptions	Code-No.	Q'TY	Remark
	Centralized controller	DB93-03425C (MCM-A202)	1	Optional
	Cable tie	DB65-10088B	2	
	Cable clamp	DB65-10074E	5	
	M4x16 Tapped Screw	6002-000474	7	
	User's manual	DB98-12721A	1	
	Installation manual	DB98-25773A	1	

Accessories (cont.)

■ Function controller

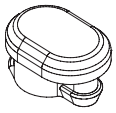
Item	Descriptions	Code-No.	Q'TY	Remark
	Function controller	DB97-01077A (MCM-A100)	1	Optional
	Cable tie	DB65-10088B	2	
	Cable clamp	DB65-10074E	6	
	M4x16 Tapped Screw	6002-000474	7	
	User's manual	DB98-27317A	1	
	Installation manual	DB98-27315A	1	

■ Transmitter

Item	Descriptions	Code-No.	Q'TY	Remark
	Transmitter	DB97-00647P (MIM-B04A)	1	Optional
	Transmitter power cable	DB39-00378D	1	
	Transmitter communication cable	DB39-00253D	1	

Accessories (cont.)

■ DMS(Date Management Server)

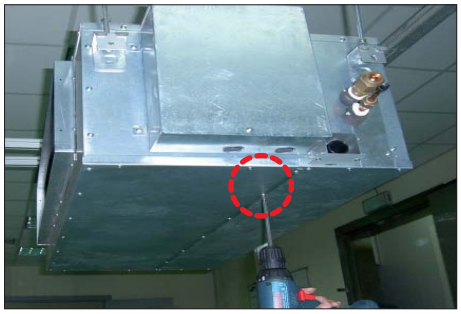
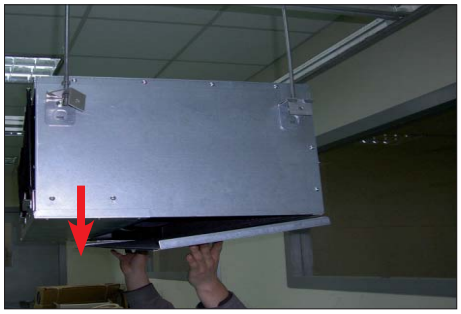
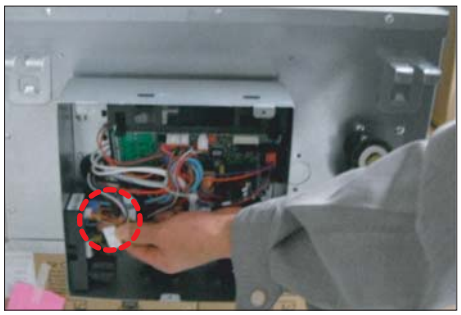
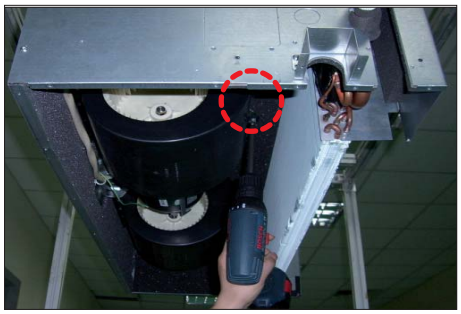
Item	Descriptions	Code-No.	Q'TY	Remark
	DMS	DB93-03709B (MIM-D00)	1	Optional
	Cable tie	DB65-10088B	2	
	Cable clamp	DB65-10074D	2	
	M4x16 Tapped Screw	6002-000474	5	
	Bottom hook	DB73-00320A	4	
	User's manual	DB98-27317A	1	
	Installation manual	DB98-27315A	1	

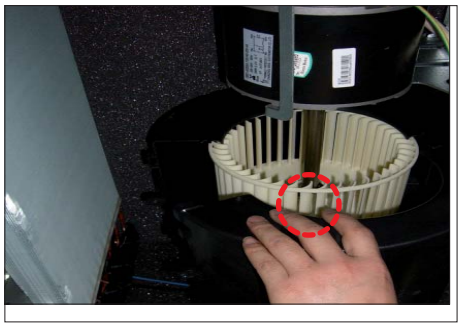
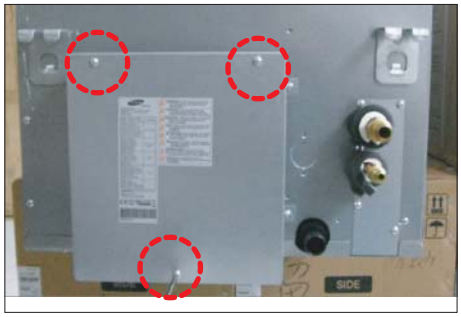
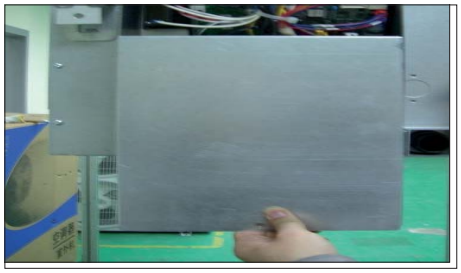
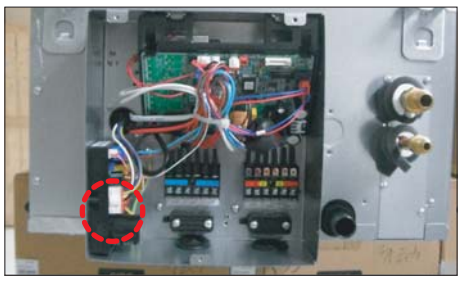
3. Disassembly and Reassembly

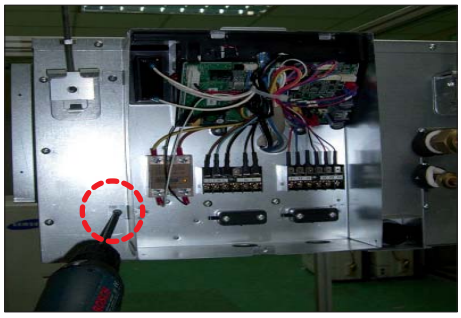
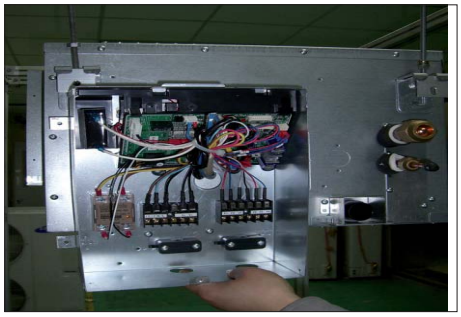
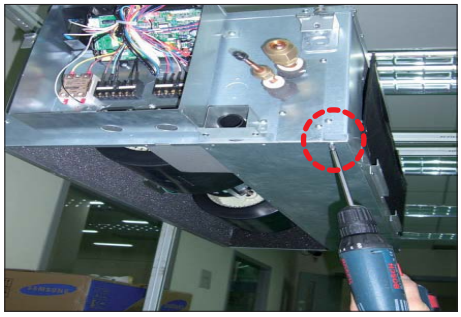
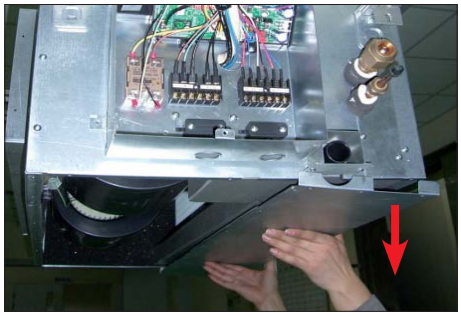
■ Necessary Tools

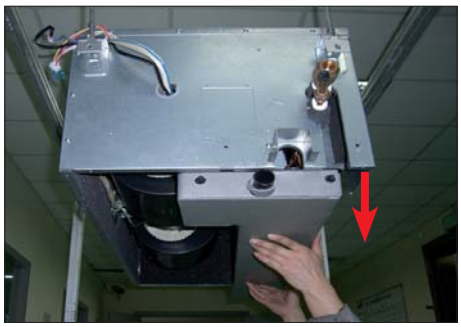
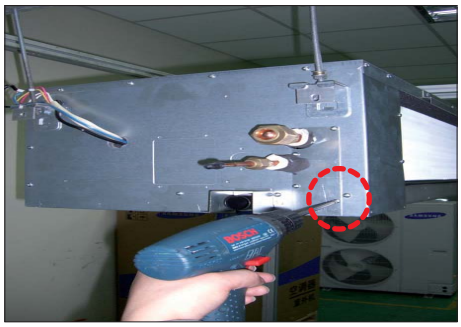
Item	Remarks
+SCREW DRIVER	
Adjustable Wrench (8mm, 10mm, 13mm)	

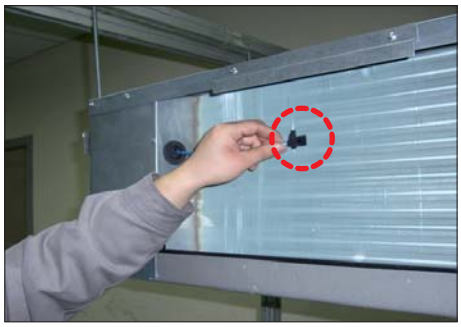
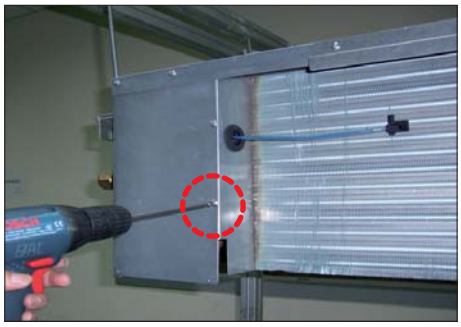
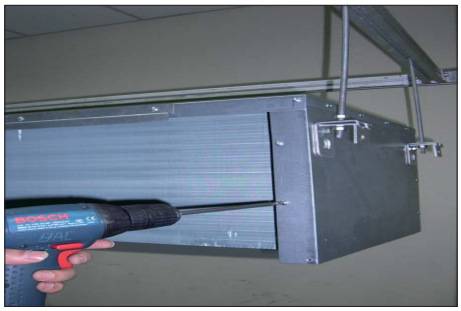
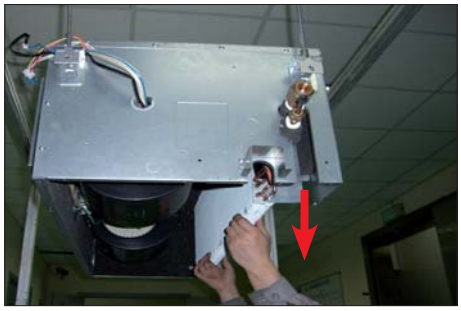
3-1 Indoor unit

No	Parts	Procedure	Remark
1	Blower & Motor	1) After disassembling 16 places indicating screws, detach Ass'y Cabi Bottom Blower. (Use +Screw Driver)	 
		2) Detach the Motor Fan connector from the BLDC PCB.	
		3) After disassembling 2 places indicating screws, detach the 2 Fan Case. (Use +Screw Driver)	

No	Parts	Procedure	Remark
		4) After disassembling 2 places indicating screws, detach Fan Motor and Blower from the set.	
2	Control In	1) After disassembling 3 Indicating screw, detach the Cover control. (Use +Screw Driver)	 
		2) Detach the Motor-Fan and Sensor Connector from the PCB.	

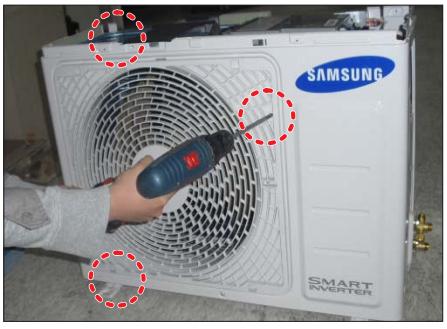
No	Parts	Procedure	Remark
		3) Disassemble 4 indicating screws and detach Control In from the set.	 
3	Drain Pan	Work is possible when Disassembling the Ass'y Cabi Bottom Blower. 1) Disassemble 7 indicating screws and detach Ass'y Cabi Bottom Drain..	 

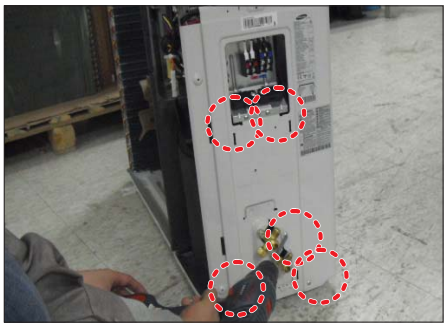
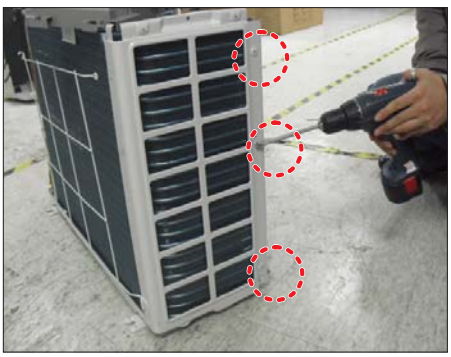
No	Parts	Procedure	Remark
		1) Disassemble 4 indicating screws and detach the Drain Pan. (Use +Screw Driver) (2 screws each at left and right side).	
4	Evap	Work is possible when Disassembling the Ass'y Drain Pan. 1) Disassemble 5 indicating screws to detach Cover Pipe. (Use +Screw Driver)	

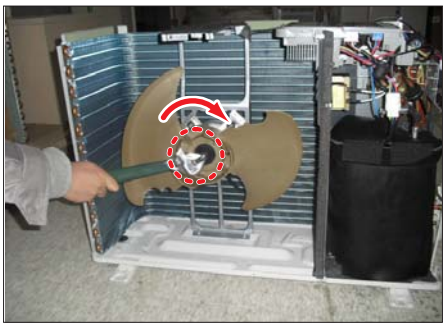
No	Parts	Procedure	Remark
		2) Disassemble Sensor on the Evap.	
		3) Disassemble 4 indicating screws which are in the near of Hanger Plate to detach the Evap. (Use +Screw Driver) (2 screws each at left and right side) ⚠ It needs 2 peoples..	  

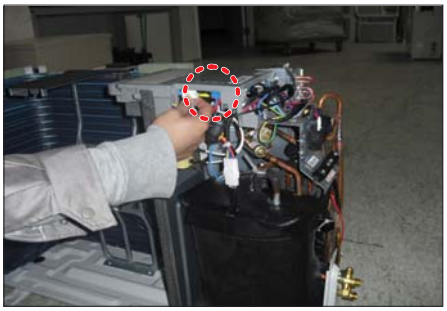
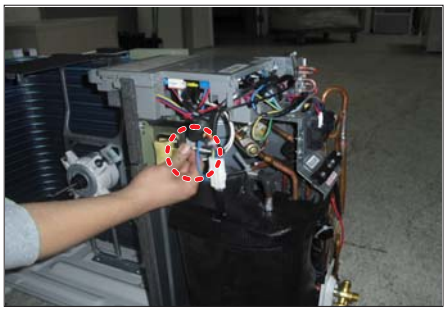
3-2 Outdoor Unit

■ AC052FCADEH/EU

No	Parts	Procedure	Remark
1	common work	1) loosen 1 pcs screw of cover control,and detach it.	
		2) loosen 5 pcs screws on both right and left cabniet side edges and to detach the cover-top	
		3) Loosen 7 screwsfixed to disassemble cabi-front , and detach it.	
			

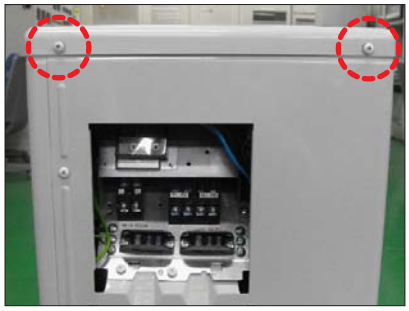
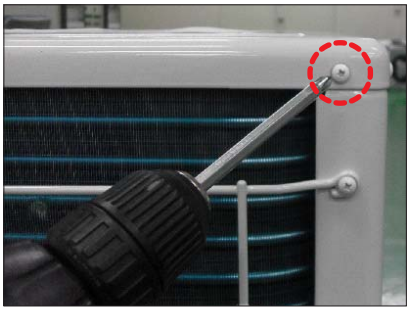
No	Parts	Procedure	Remark
	common work	4) loosen 7 screws to disassemble the cabi-right ,and detach it.	
		5) loosen 2 screws to disassemble steel-bar.	
		6) loosen 3 screws to disassemble cabi-left.	

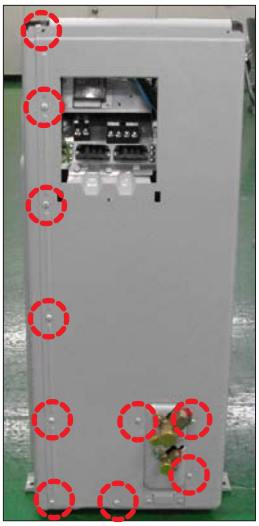
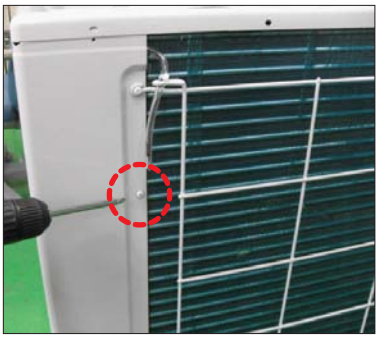
No	Parts	Procedure	Remark
2	fan&motor	1) loosen 1 screw as indication and detached the fan.	
		2) loosen 4 pcs motor screws and disconnect the wire betwwen assy control out and motor.	
		3) loosen 2 pcs bracket-motor screw and detach it.	

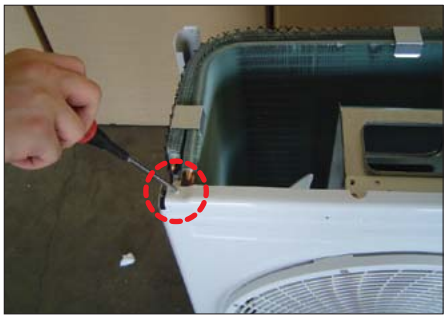
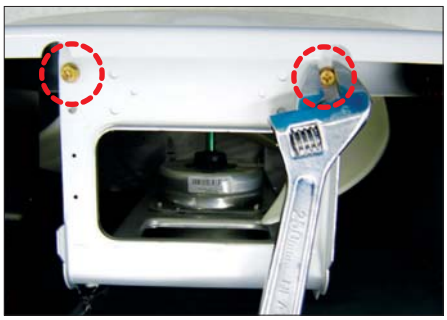
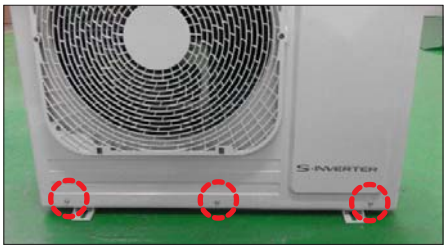
No	Parts	Procedure	Remark
3	assy control out	1) lossen fixing 1 screw from cover -control 2) detach several connections from assy control out, take out assy control out.	  
4	Heat exchanger	1) Release the refrigerant at first 2) Looosen fixing screw on both side. 3) disaessembly the pipes in both inlet and outlet with welding torch. 4) detach the heat exchanger.	

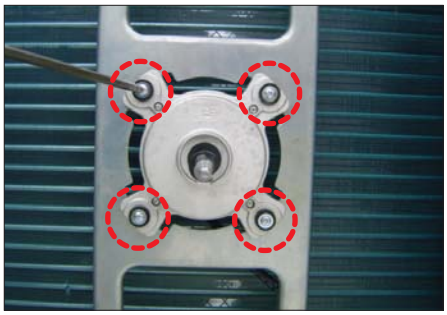
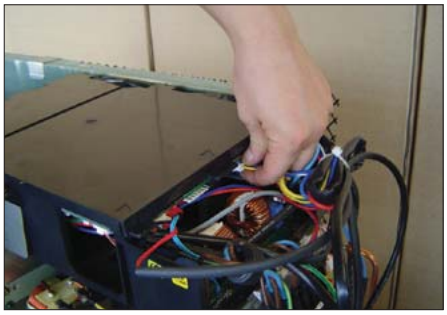
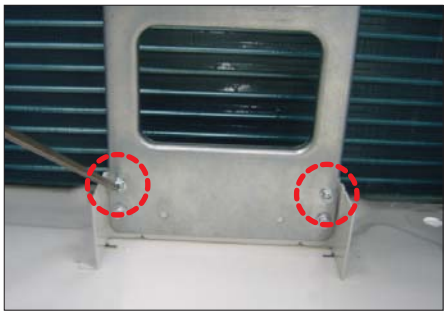
No	Parts	Procedure	Remark
5	compressor	1) disconnect the compressor lead wire .	
		2)disassembly the felt comp sound. loosen the 3 bolts at the bottom of	

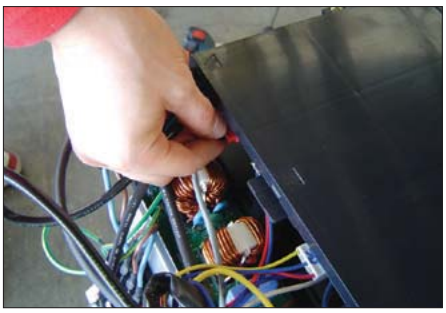
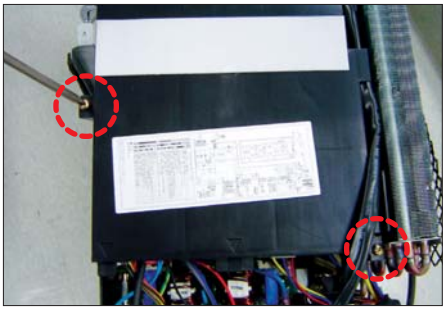
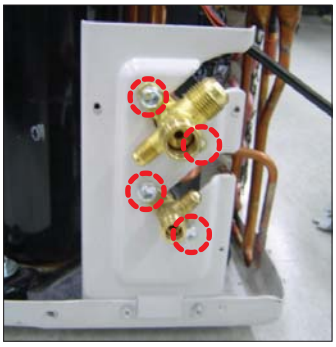
■ AC071FCADEH/EU

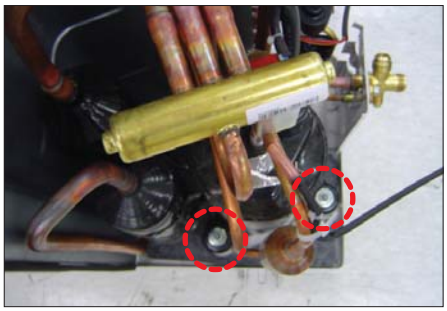
No	Parts	Procedure	Remark
1	Common Work	1) Loosen 1 fixing screw of the Cover-Control and detach the Cover Control.	
		2) Loosen each 7 fixing screws and detach the Cabinet Upper.	
			

No	Parts	Procedure	Remark
		3) Loosen 2 screws fixed to assemble Control Box with Cabinet-Side RH.	
		4) Loosen fixing screws and detach the Cabinet-Side RH.	
		5) Loosen 2 screws fixed on the Guide Condenser.	

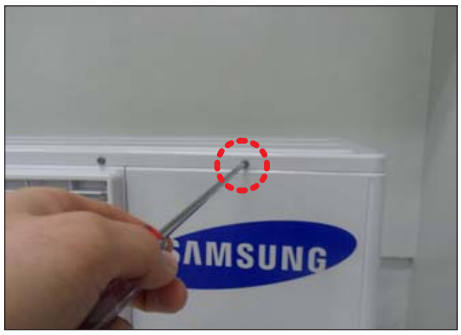
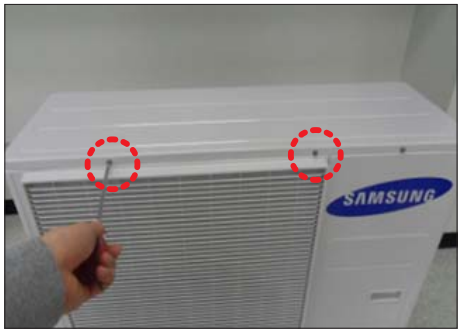
No	Parts	Procedure	Remark
		6) Loosen fixing screws of the Cabinet Front.	  

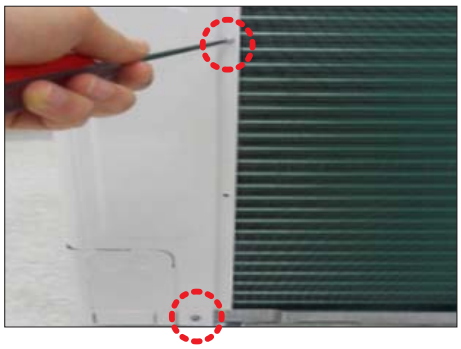
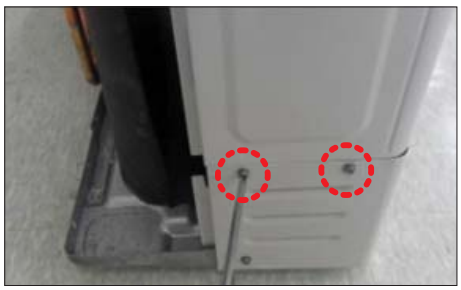
No	Parts	Procedure	Remark
2	Fan & Motor	1) Detach the Nut Flange like the picture on the right side. (Turn counter clockwise because the screw is right-handed.)	
		2) Detach the Fan Propeller. 3) Loosen 4 fixing screws to detach the Motor.	
		4) Disconnect the wire between ASS'Y Control Out and Motor.	
		5) Loosen 2 fixing bolts and detach the Bracket Motor.	

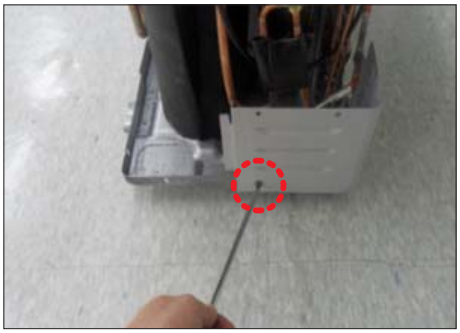
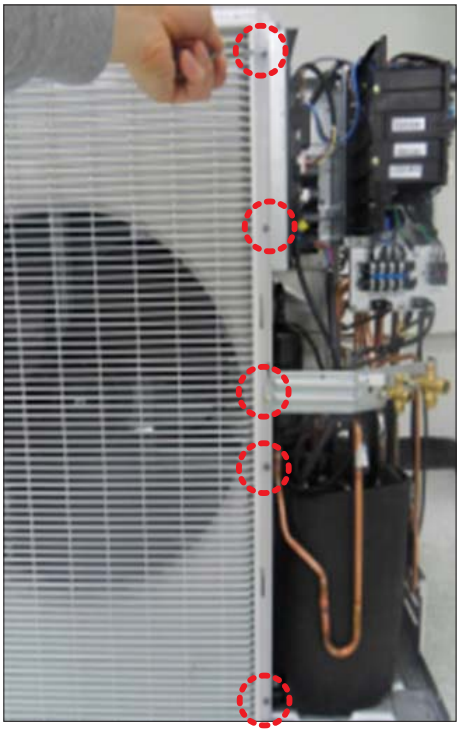
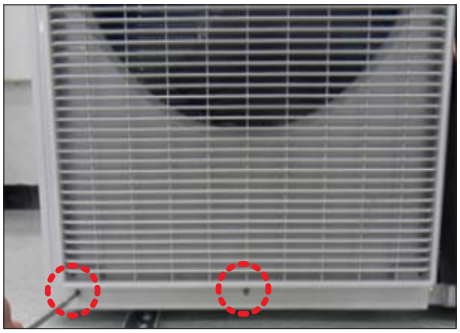
No	Parts	Procedure	Remark
3	ASS'Y Control Out	1) Detach several connectors from the ASS'Y Control Out. 2) Detach several connectors from the PCB of ASS'Y Control Out. 3) Pull up the ASS'Y Control Out.	 
4	Heat Exchanger	1) Release the refrigerant at first. 2) Loosen fixing screw on both sides. 3) Disassemble the pipes in both inlet and outlet with welding torch. 4) Detach the Heat Exchanger. 5) Loosen 4 bolts fixed to assemble Valve Service with Bracket Valve like the picture on the right side.	 

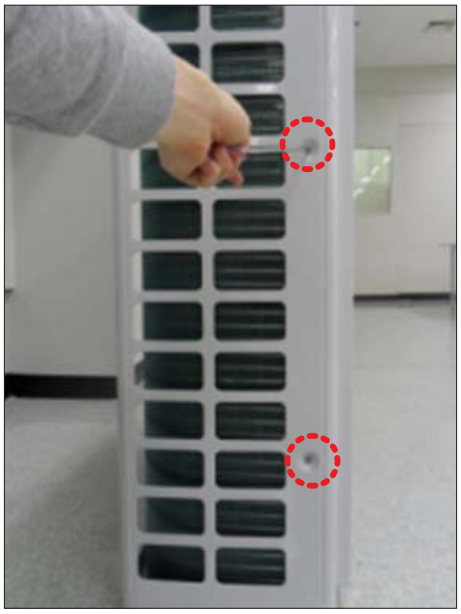
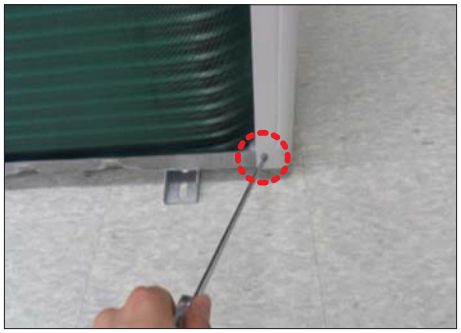
No	Parts	Procedure	Remark
5	Compressor	1) Loosen the fixing nut and detach the Compressor Lead Wire.	
		2) Disassemble the Felt Compressor Sound. 3) Loosen the 3 bolts at the bottom of Compressor like the picture on the right side.	

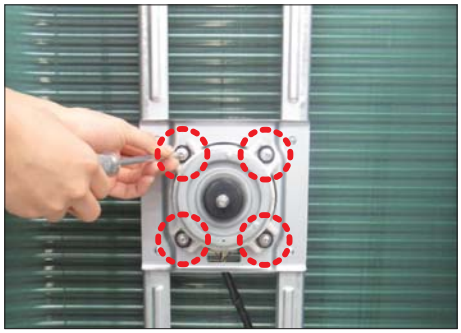
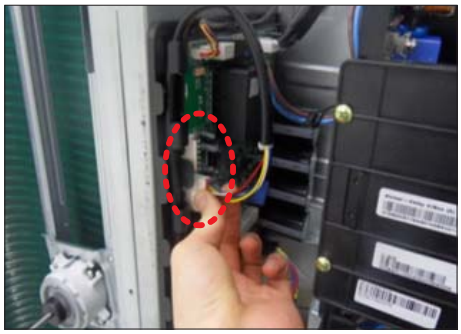
■ AC090FCADEH/EU AC100FCADEH/EU AC100FCADGH/EU

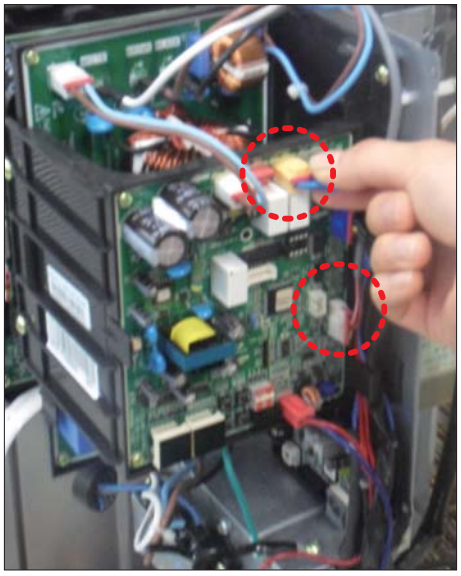
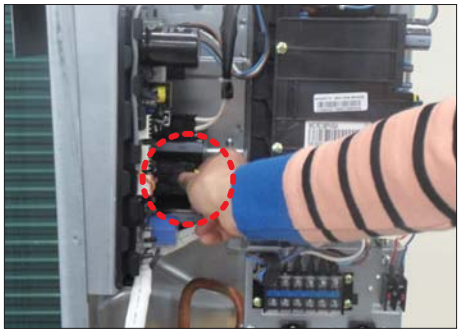
No	Parts	Procedure	Remark
1	Cabi Front RH	⚠ You must turn off the Power before disassembly. 1) Unscrew and remove two mounting screw in the Cabinet Front RH. (Use +Screw Driver)	
2	Cabi Top	1) Unscrew and remove 9 screws on each side of the Cabinet-Top. (Use +Screw Driver)	
3	Cabi Install Front	1) Unscrew and remove 1 screw in the Cabinet-Install Front. (Use +Screw Driver)	

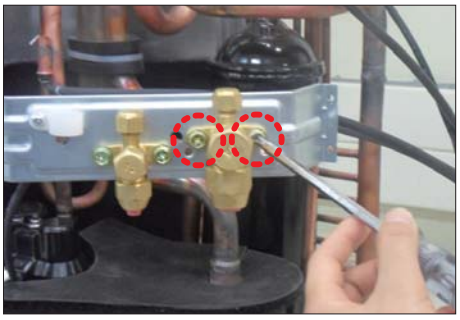
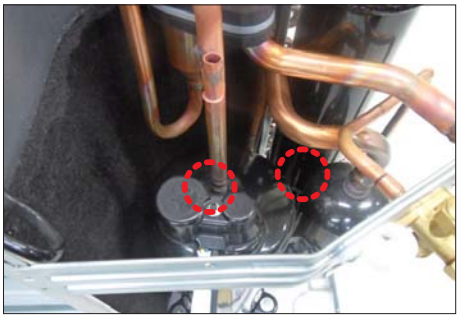
No	Parts	Procedure	Remark
4	Guard Cond	1) Pull the sensor from Guard Cond.	
		2) Unscrew and remove 4 screws in the Guard Cond. (Use +Screw Driver)	
5	Cabi Back RH	1) Pull the sensor from Cabi Back RH.	
		2) Unscrew and remove 4 screws on each side of the Cabinet Back RH. (Use +Screw Driver)	 

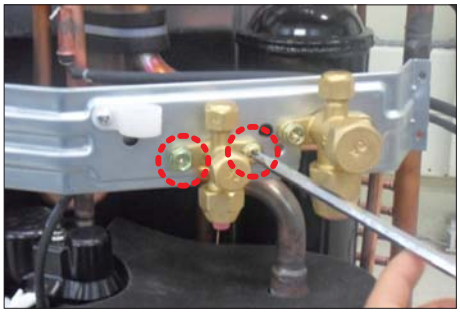
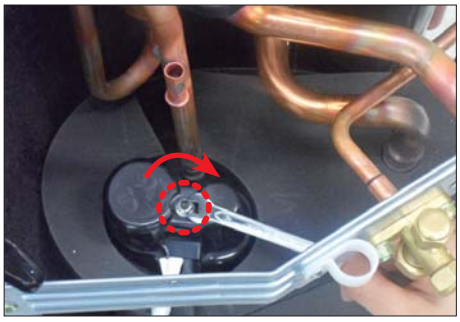
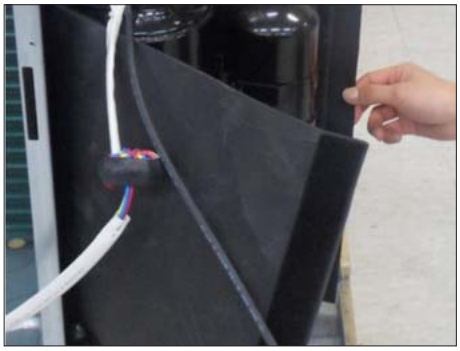
No	Parts	Procedure	Remark
6	Cabi Install Back	1) Unscrew and remove 1 screw in the Cabinet-Install Back. (Use +Screw Driver)	
7	Cabi Front LF	1) Unscrew and remove 10 screws in the Cabinet-Front LF. (Use +Screw Driver)	 

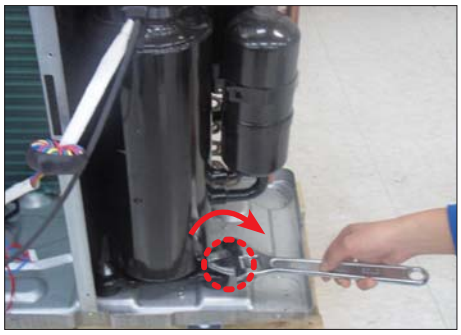
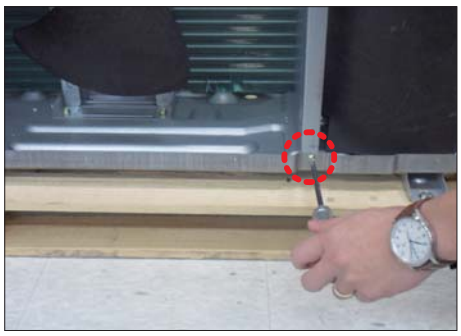
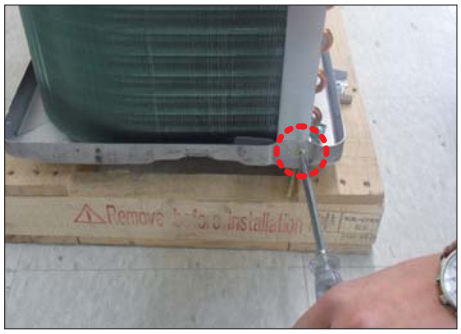
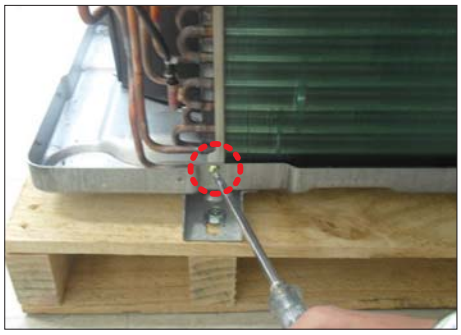
No	Parts	Procedure	Remark
			 
8	Fan	1) Turn 2 mounting nuts as shown in the picture and remove it. (Use Adjustable Wrench)	

No	Parts	Procedure	Remark
9	Motor	1) Separate the Fan Propeller. 2) Unscrew and remove the 4 Motor mounting screws. (Use +Screw Driver)	
		3) Disconnect the Motor wire From Ass'y Control Out.	
10	Bracket Motor	1) Unscrew and remove 2 mounting screws in Bracket Motor. (Use +Screw Driver)	

No	Parts	Procedure	Remark
11	Control Out	1) Disconnect 4 Connecters From Ass'y Control Out.	
			
		2) Unscrew and remove 1 mounting screw in Control Out. (Use +Screw Driver) 3) Separate Ass'y Control Out.	

No	Parts	Procedure	Remark
12	Ass'y 4way Valve	1) Purge the Coolant first. 2) Unscrew and remove 2mounting screws in muffler. 3) Unscrew and remove 2 mounting screws in Service Valve. (Use +Screw Driver)	
			
		4) Separate the pipe from the Entrance/Exit using a welder.	
		⚠ When removing the compressor, Heat Exchanger, and Pipe, purge the Coolant inside the Compressor completely and remove the pipe with a welding flame.	

No	Parts	Procedure	Remark
13	Ass;y EEV Valve	1) Unscrew and remove 2 mounting screws in Service Valve. (Use +Screw Driver)	
		2) Separate the pipe from the Entrance/Exit using a welder.	
14	Compressor	1) Unscrew and remove 1 mounting nut in Cover Terminal. (Use Adjustable Wrench)	
		2) Separate the Compressor Felt Sound.	
			

No	Parts	Procedure	Remark
		3) As shown in the picture, unscrew and remove 3 mounting screws from the bottom. (Use Adjustable Wrench)	
15	Cond Out	1) Unscrew and remove 3 screws on each side of the Assy Cond Out. (Use +Screw Driver)	
		2) Separate the Compressor Felt Sound.	 

4. Troubleshooting

4-1 Indoor Display Error and Check Method

■ Error detection and reoperation

▶ If error occurs during the operation, badness is indicated by LED flickering and all operation is stopped except LED.

▶ When reoperating by remote control and switch determine the error mode after normal operation.

■ Indoor unit LED lamp display at error detecting

Error type	LED lamp display					Remarks
	Operation	Defrost	Timer	Air flow	Filter	
	⏻	*💧	🕒	🌀	▦	
Power reset	◑	X	X	X	X	
Error of temperature sensor in the indoor unit(Open/Short)	X	X	◑	X	X	
Error of heat exchanger sensor in the indoor unit	◑	X	◑	X	X	
Error of the outdoor temperature sensorError of the condensor temperature sensor Error of the discharge temperature sensorPower reset	◑	X	X	◑	X	
1. No communication for 2 minutes between indoor units (Communication error for more than 2 minutes) 2. Indoor unit receiving the communication error from outdoor unit 3. Outdoor unit tracking 3 minutes error 4. When sending the communication error from the outdoor unit, the mismatching of the communication numbers and installed numbers after completion of tracking4. (Communication error for more than 2 minutes)	X	X	◑	◑	X	
1. Error of electronic expansion valve close 2. Error of electronic expansion valve open 3. 2'nd detection of high temperature cond 4. 2'nd detection of high temperature discharge 5. Error of reverse phase 6. Compressor down due to 6'th detection of freezing	X	X	◑	◑	◑	
Detection of the float switch	X	X	X	◑	◑	
Error of setting option switches for optional accessories	X	X	◑	X	◑	
EEPROM option error	◑	◑	◑	◑	◑	

●：ON, ◑：Flickering, X：OFF

※ If you turn off the air conditioner when the LED is flickering, the LED is also turned off.

4-1-1 Wired Remocon Error Display(COM2)

• If an error occurs, TEST is displayed on the wired remote controller. If you would like to see an error code, press the Test button.

Display	Explanation	Remark
401	Indoor unit Communication Error	Communication Error
402	Indoor/Outdoor unit Communication Time Out Error 60 Packet Over data	
201	Indoor unit is not connected	
203	Communication Error between Outdoor Main and Inverter Micom (Occurred after 1 minute detection in Main and Inverter)	
121	Indoor Temp. Sensor(Open/Short Error)	Indoor Sensor Error
122	Indoor Unit Eva in Sensor(Open/Short Error)	
128	Indoor Unit Eva in Sensor Separation	
221	Outdoor Temp. Sensor Error(Open/Short Error)	Outdoor Sensor Error
237	COND Temp. Sensor Error(Open/Short Error)	
251	Inverter Compressor Discharge Temp. sensor Error(Open/Short Error)	
425	Power cable miss connection error	
153	Indoor Float Switch 2nd Detection	Self Diagnosys Error
460	Outdoor unit - indoor unit communication wire miss connection (Connected to Power terminal)	
554	Outdoor unit refrigerant Full leakage(Gas leak)	
458	Outdoor Fan 1 Error	
475	Outdoor Fan 2 Error	
416	Discharge over temperature	Outdoor UnitProtetion Control Error
461	[Inverter] Compressor starting error	
462	Primary Current Over Trip error	
464	[Inverter]IPM Over Current(O.C)	
467	[Inverter] Compressor Rotation error	
468	[Inverter] Current Sensor error	
469	[Inverter] DC LINK Sensor error	
471	[Inverter] EEPROM Read/Write Error	
474	[Inverter] Heatsink temperature over Error	Outdoor UnitProtetion Control Error
556	Outdoor unit Capacity Setup option error	
601	Communication error between Indoor unit and wired remote control	Wired remote control error
602	Communication error between Master and Slave wired remote control	
606	COM1/COM2 Cross-installed error	
6EA	Error of setting option for wired remote control COM2	

4-2 Outdoor LED Error Display and Check Method

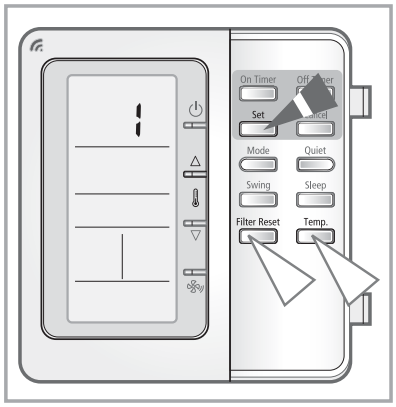
No.	LED Display			Explanation	Error Code
	Yellow	Green	Red		
1	○	○	○	Power off/ VDD NG	-
2	○	○	◉	IPM Over Current(O.C)	464
3	○	○	●	Abnormal Serial communication/Power Cable Miss Connection	203
	○	●	●		
4	○	◉	○	Compressor Starting error	461
5	○	◉	●	Normal Operation	-
6	○	●	○	Compressor Lock error	403
7	○	●	◉	DC-Link voltage under/over error	466
8	◉	○	◉	Outdoor temperature sensor error	221
9	◉	○	●	Discharge over temperature	416
10	◉	◉	○	Discharge temperature sensor error	251
11	◉	◉	●	Current sensor error	468
12	◉	●	○	Compressor Limit error	465
13	◉	●	◉	Coil temperature sensor error	237
14	◉	●	●	1min. Time out Communication	202
15	●	○	○	Fan error	458
					405
16	●	○	◉	OTP error	401
17	●	○	●	Compressor rotation error	467
18	●	◉	○	Operation condition secession	440
					441
19	●	◉	◉	DC-Link voltage sensor error	469
20	●	◉	●	I_Trip error	462
21	●	●	○	GAS Leak error	554
22	●	●	◉	Power Cable miss connection	425
23	●	●	●	Power ON reset(1sec)	-
24	◉	○	○	Capacity miss match	556
25	○	◉	◉	Test Operation at Cooling Mode	-
26	◉	◉	◉	Test Operation at Heating Mode	-

○ Off ◉ Blink ● On

Setting an indoor unit option code

Model	Option code	Model	Option code
AC052FBMDEH	011014-19626E-27343C-370010	AC100FBMDEH	011034-15617C-276470-370000
AC052FCADEH		AC100FCADEH	
AC071FBMDEH	011017-1563A2-274750-370010	AC100FBMDEH	
AC071FCADEH		AC100FCADGH	
AC090FBMDEH	011034-15617C-275A64-350000		
AC090FCADEH			

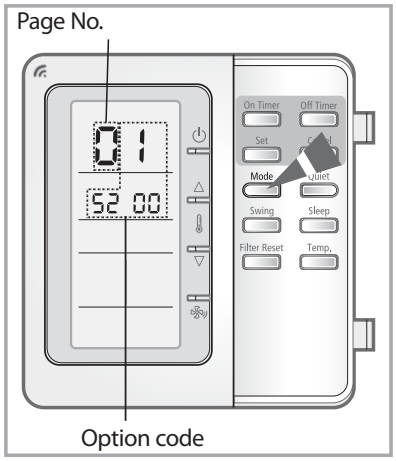
In order to set the indoor unit option code using the wired remote controller, hold down the Filter Reset and Temp. buttons at the same time for 5 seconds.



1 The menu will display 1.
Press the Set button to enter the indoor unit option code mode.

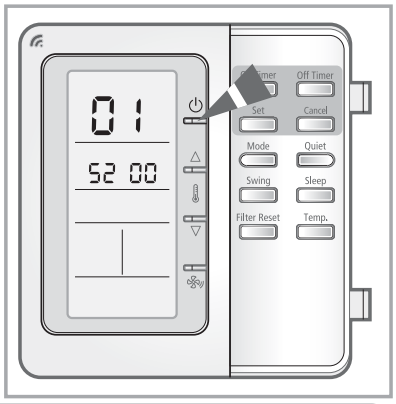
NOTE • The first digit represents the page number and the remaining five digits are option codes.

2 Press the Mode button to change the page. You can change the page from 0 to 3.



3 Press the △ ▽ buttons and the Set button to set the option code in order.

NOTE • The option code which is currently setting will flicker.



4 Press the ⏻ button to save the changed setting.

You will move to the menu selection display.

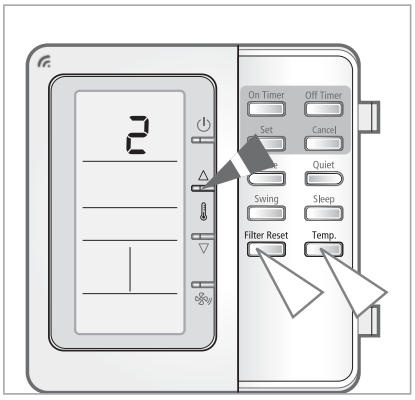
NOTE • Press the Cancel button anytime during setup to exit without setting.

CAUTION
- Option code will not be applied if you don't press the ⏻ button.
- Setting indoor unit option code is only possible in Master wired remote controller. You can only check the indoor unit option code in Slave wired remote controller.
- Setting indoor unit option code is possible when one indoor unit is connected. If more than 2 indoor units are connected, you can only check the Master indoor unit option code.

Set the indoor unit address and installation option with remote controller option. Set the each option separately since you cannot set the ADDRESS setting and indoor unit installation setting option at the same time.You need to set twice when setting indoor unit address and installation option.

Setting an indoor unit address

In order to check and set the indoor unit Main/Group Address using the wired remote controller, hold down the Filter Reset and Temp. buttons at the same time for 5 seconds.

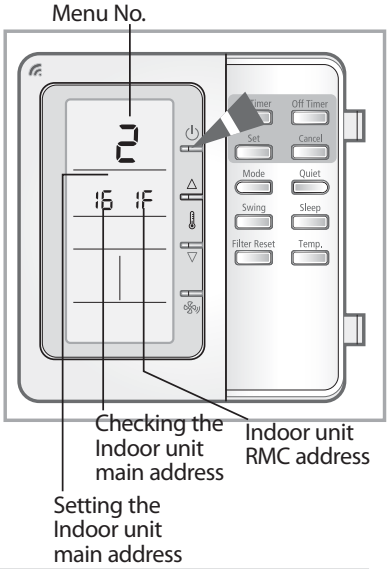


1 The menu will display 1.

Press the △ button and the menu will display 2.

2 Press the Set button.

The main address (decimal notation) and group address (hexa-decimal notation) of currently set indoor unit will be displayed.



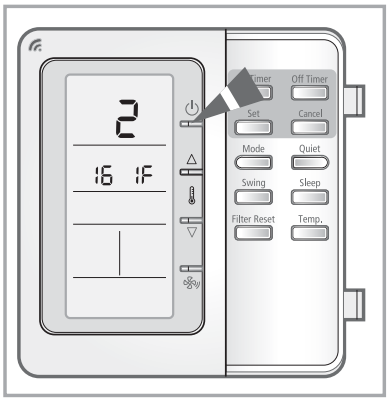
3 Press the △ ▽ buttons and the Set button to set the indoor unit Main/Group Address.

4 Press the ⏻ button.

Wired remote controller sends data to an indoor unit.

5 Press the Cancel button to exit.

You will move to the menu selection display.



NOTE

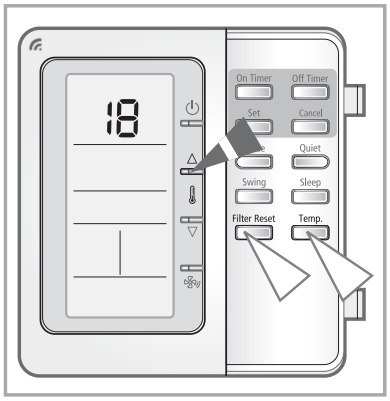
- Press the Cancel button anytime during setup to exit without setting.
- Setting main/group address of an indoor unit is available only with a master wired remote controller.

Setting an indoor unit installation option

In order to check and set the indoor unit DIP option code using the wired remote controller, hold down the Filter Reset and Temp. buttons at the same time for 5 seconds.

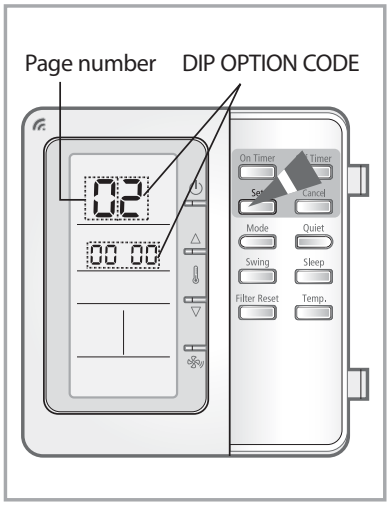
1 The menu will display 1.

Press the △ button until 18 is displayed.



2 Press the Set button.

The current DIP option code set in an indoor unit will be displayed.



3 Press Mode button and change the page number.

The total option codes are 24digits.you can set six digits at a time and it is distinguished by page number(0,1,2,3).

SGE1	SGE2	SGE3	SGE4	SGE5	SGE6
0	2	RESERVED	Exterior temperature sensor	Central control	RESERVED
SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
1	Drain pump	HOT COIL	RESERVED	RESERVED	Master / Slave
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18
2	External control	External control output	RESERVED	Buzzer	Number of hours using filter
SEG19	SEG20	SEG21	-	-	-
3	Individual control of a remote controller	RESERVED	-	-	-

Option No. : 02XXXX-1XXXXX-2XXXXX-3XXXXX

Option	SEG1		SEG2		SEG3	SEG4		SEG5		SEG6
Explanation	PAGE		MODE		RESERVED	Use of external temperature sensor		Use of central control		RESERVED
Indication and Details	Indication	Details	Indication	Details		Indication	Details	Indication	Details	
	0		2			0	Disuse	0	Disuse	
						1	Use	1	Use	

Option	SEG7		SEG8		SEG9		SEG10	SEG11	SEG12	
Explanation	PAGE		Use of drain pump		HOT COIL		RESERVED	RESERVED	Master / Slave	
Indication and Details	Indication	Details	Indication	Details	Indication	Details			Indication	Details
	1		0	Disuse	0	Disuse			0	slave
			1	Use	1	Use			1	master
			2	Use + 3minute delay	-	-			-	-

Option	SEG13		SEG14		SEG15		SEG16	SEG17		SEG18	
Explanation	PAGE		Use of external control		Setting the output of external control		RESERVED	Buzzer control		Number of hours using filter	
Indication and Details	Indication	Details	Indication	Details	Indication	Details		Indication	Details	Indication	Details
	2		0	Disuse	0	Thermo on		0	Use of buzzer	2	1000 Hour
			1	ON/OFF Control	1	Operation on		1	Non use of buzzer	6	2000 Hour
			2	OFF Control							

Option	SEG19		SEG20		SEG21	-	-	-	-
Explanation	PAGE		Individual control of a remote controller		RESERVED	-	-	-	-
Indication and Details	Indication	Details	Indication	Details		-	-	-	-
	3		0 or 1	Indoor 1		-	-	-	-
			2	Indoor 2					
			3	Indoor 3					
			4	Indoor 4					

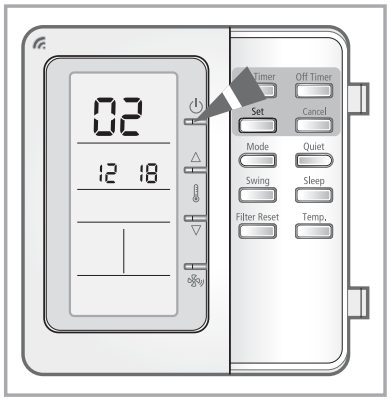
4 Press the △ / ▽ buttons and the Set button to set the Indoor unit DIP option code.

5 Press the ⏻ button.

Wired remote controller sends data to an indoor unit.

6 Press the Cancel button to exit.

You will move to the menu selection display.



NOTE

- Press the Cancel button anytime during setup to exit without setting.
- Setting an indoor unit DIP option code is available only with a master wired remote controller.
- Setting an indoor unit DIP option code is available when there is one on one connection between a wired remote controller and an indoor unit.
- Indoor unit DIP option code will not be applied if you don't press the ⏻ button.

Setting an indoor unit option code

Model	SEG1	SEG2	SEG3	SEG4	SEG5	SEG6	SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
AC052FBMDEH	0	1	1	0	1	4	1	9	6	2	6	E
AC052FCADEH	0	1	1	0	1	4	1	9	6	2	6	E
AC071FBMDEH	0	1	1	0	1	7	1	5	6	3	A	2
AC071FCADEH	0	1	1	0	1	7	1	5	6	3	A	2
AC090FBMDEH	0	1	1	0	3	4	1	5	6	1	7	C
AC090FCADEH	0	1	1	0	3	4	1	5	6	1	7	C
AC100FBMDEH	0	1	1	0	3	4	1	5	6	1	7	C
AC100FCADEH	0	1	1	0	3	4	1	5	6	1	7	C
AC100FBMDEH	0	1	1	0	3	4	1	5	6	1	7	C
AC100FCADGH	0	1	1	0	3	4	1	5	6	1	7	C
Model	**SEG13**	**SEG14**	**SEG15**	**SEG16**	**SEG17**	**SEG18**	**SEG19**	**SEG20**	**SEG21**	**SEG22**	**SEG23**	**SEG24**
AC052FBMDEH	2	7	3	4	3	C	3	7	0	0	1	0
AC052FCADEH	2	7	3	4	3	C	3	7	0	0	1	0
AC071FBMDEH	2	7	4	7	5	0	3	7	0	0	1	0
AC071FCADEH	2	7	4	7	5	0	3	7	0	0	1	0
AC090FBMDEH	2	7	5	A	6	4	3	5	0	0	0	0
AC090FCADEH	2	7	5	A	6	4	3	5	0	0	0	0
AC100FBMDEH	2	7	6	4	7	0	3	7	0	0	0	0
AC100FCADEH	2	7	6	4	7	0	3	7	0	0	0	0
AC100FBMDEH	2	7	6	4	7	0	3	7	0	0	0	0
AC100FCADGH	2	7	6	4	7	0	3	7	0	0	0	0

4-4 Iterms to be checked first

1. The input voltage should be rating voltage ±10% range.
   The air conditioner may not operate properly if the voltage is out of this range.

2. Is the link cable linking the indoor unit and the outdoor unit linked properly?
   The indoor unit and the outdoor unit shall be linked by 4 cables.
   Check the terminals if the indoor unit and outdoor unit are properly linked by the same number of cables.
   Otherwise the air conditioner may not operate properly.

3. When a problem occurs due to the contents illustrated in the table below it is a symptom not related to the malfunction of the air conditioner.

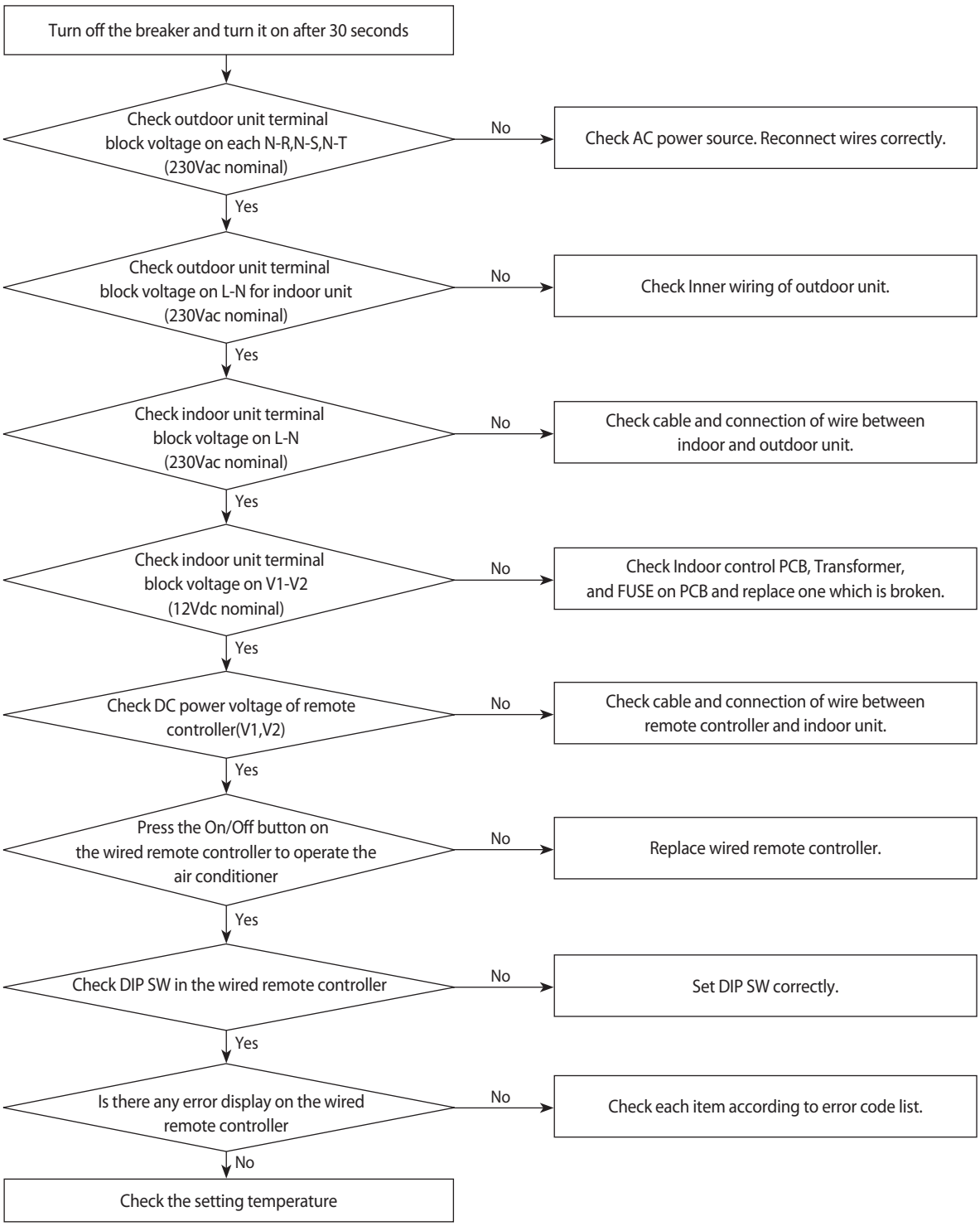
No	Operation of air conditioner	Explanation
1	In a COOL operation mode, the compressor does not operate at a room temperature higher than the setting temperature that the INDOOR FAN should operate. **[In case of heat pump model]** In a HEAT operation mode, the compressor does not operate at a room temperature lower than the setting temperature that indoor fan should operate.	In happens after a delay of 3 minutes when the compressor is reoperated. The same phenomenon occurs when a power is on. As a phenomenon that the compressor is reoperated after a delay of 3 minutes, the indoor fan is adjusted automatically with reference to a temperature of the air blew.
2	Compressor stops operation intermittently in DRY(*) mode.	Compressor operation is controlled automatically in DRY mode depending on the room temperature and humidity.
3	**[In case of heat pump model]** Compressor of the outdoor unit is operating although it is turned off in a HEAT mode.	When the unit is turned off while de-ice is activated, the compressor continues operation for up to 12 minutes(maximum) until the deice is completed.
4	**[In case of heat pump model]** The compressor and indoor fan stop intermittently in HEAT mode.	The compressor and indoor fan stop intermittently if room temperature exceeds a setting temperature in order to protect the compressor from overheated air in a HEAT mode.
5	**[In case of heat pump model]** Indoor fan and outdoor fan stop operation intermittently in a HEAT mode.	The compressor operates in a reverse cycle to remove exterior ice in a HEAT mode, and indoor fan and outdoor fan do not operate intermittently for within 20% of the total heater operation.

4-5 Fault Diagnosis by Symptom

4-5-1 No Power(completely dead) - Initial diagnosis

1. Checklist :
   1) Is Power source voltage normal?
   2) Is AC power linked correctly? (miss-wiring, wire detaching etc.)
   3) Is any LED on the MAIN PCB of Outdoor unit lit?
   4) Is terminal voltage for indoor unit normal? (230Vac nominal)
   5) Is Wired remote controller installed correctly?

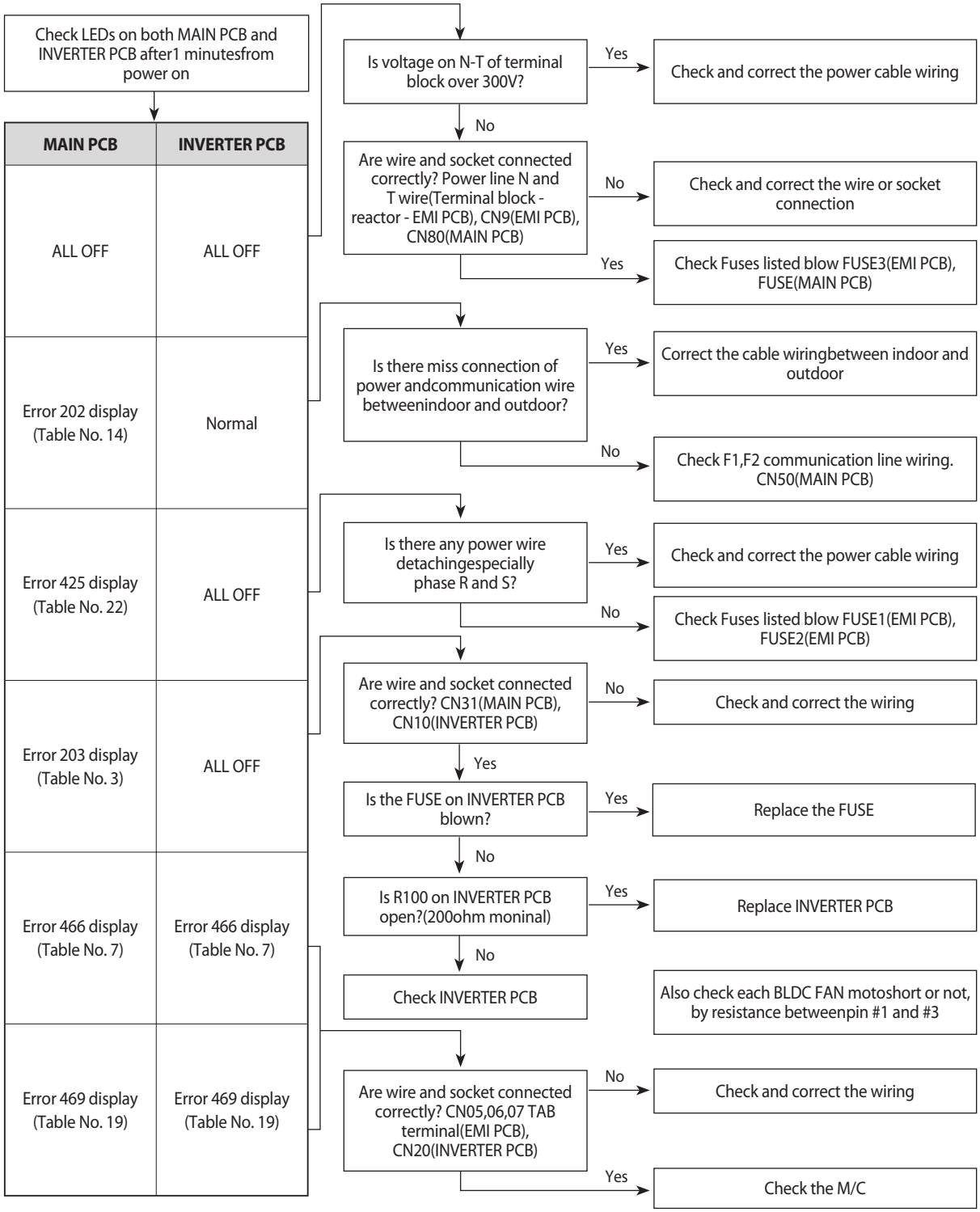
2. Troubleshooting procedure


Turn off the breaker and turn it on after 30 seconds
Check outdoor unit terminal block voltage on each N-R,N-S,N-T (230Vac nominal)
No
Check AC power source. Reconnect wires correctly.
Yes
Check outdoor unit terminal block voltage on L-N for indoor unit (230Vac nominal)
No
Check Inner wiring of outdoor unit.
Yes
Check indoor unit terminal block voltage on L-N (230Vac nominal)
No
Check cable and connection of wire between indoor and outdoor unit.
Yes
Check indoor unit terminal block voltage on V1-V2 (12Vdc nominal)
No
Check Indoor control PCB, Transformer, and FUSE on PCB and replace one which is broken.
Yes
Check DC power voltage of remote controller(V1,V2)
No
Check cable and connection of wire between remote controller and indoor unit.
Yes
Press the On/Off button on the wired remote controller to operate the air conditioner
No
Replace wired remote controller.
Yes
Check DIP SW in the wired remote controller
No
Set DIP SW correctly.
Yes
Is there any error display on the wired remote controller
No
Check each item according to error code list.
No
Check the setting temperature

4-5-2 The Outdoor unit Power Supply error

1. Checklist :
   1) Are the input power voltage and power connection correct?
   2) Is there any Fuse Short of the indoor or outdoor unit?
   3) Is any LED lit on both MAIN PCB and INVERTER PCB?
   4) Are Reactor wires of the outdoor unit connected correctly?

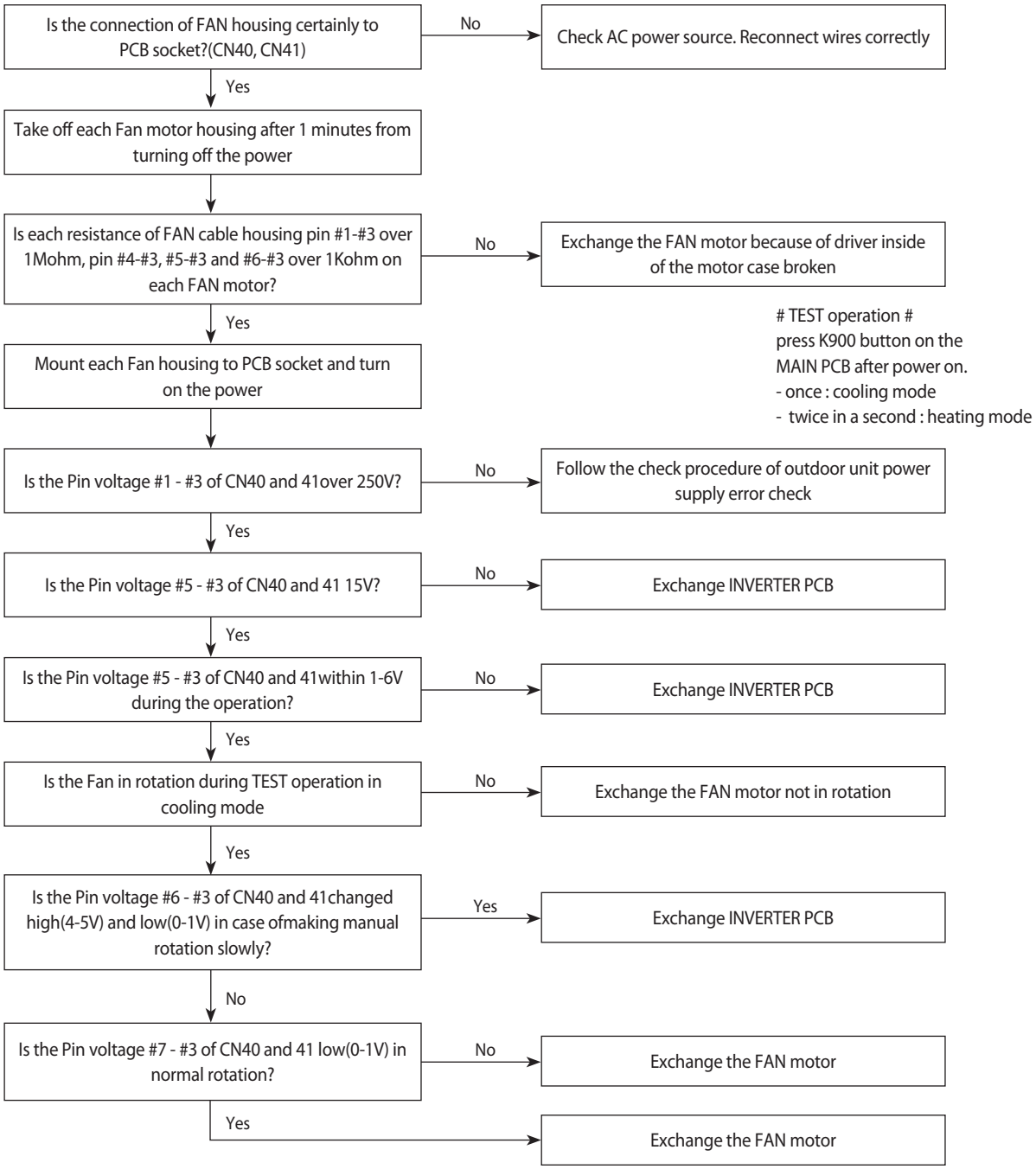
2. Troubleshooting procedure


Check LEDs on both MAIN PCB and INVERTER PCB after1 minutesfrom power on
MAIN PCB
INVERTER PCB
ALL OFF
ALL OFF
Error 202 display (Table No. 14)
Normal
Error 425 display (Table No. 22)
ALL OFF
Error 203 display (Table No. 3)
ALL OFF
Error 466 display (Table No. 7)
Error 466 display (Table No. 7)
Error 469 display (Table No. 19)
Error 469 display (Table No. 19)
Is voltage on N-T of terminal block over 300V?
Yes
Check and correct the power cable wiring
No
Are wire and socket connected correctly? Power line N and T wire(Terminal block - reactor - EMI PCB), CN9(EMI PCB), CN80(MAIN PCB)
No
Check and correct the wire or socket connection
Yes
Check Fuses listed blow FUSE3(EMI PCB), FUSE(MAIN PCB)
Is there miss connection of power andcommunication wire betweenindoor and outdoor?
Yes
Correct the cable wiringbetween indoor and outdoor
No
Check F1,F2 communication line wiring. CN50(MAIN PCB)
Is there any power wire detachingespecially phase R and S?
Yes
Check and correct the power cable wiring
No
Check Fuses listed blow FUSE1(EMI PCB), FUSE2(EMI PCB)
Are wire and socket connected correctly? CN31(MAIN PCB), CN10(INVERTER PCB)
No
Check and correct the wiring
Yes
Is the FUSE on INVERTER PCB blown?
Yes
Replace the FUSE
No
Is R100 on INVERTER PCB open?(200ohm moninal)
Yes
Replace INVERTER PCB
No
Check INVERTER PCB
Also check each BLDC FAN motoshort or not, by resistance betweenpin #1 and #3
Are wire and socket connected correctly? CN05,06,07 TAB terminal(EMI PCB), CN20(INVERTER PCB)
No
Check and correct the wiring
Yes
Check the M/C

4-5-3 The Outdoor unit Fan error

1. Checklist :
   1) Are the input power voltage and power connection correct?
   2) Is the motor wire connected to the outdoor PCB correctly?
   3) Is there no obstacle at the surrounding of motor and propeller?
   4) Does the driver in the motor case broken?

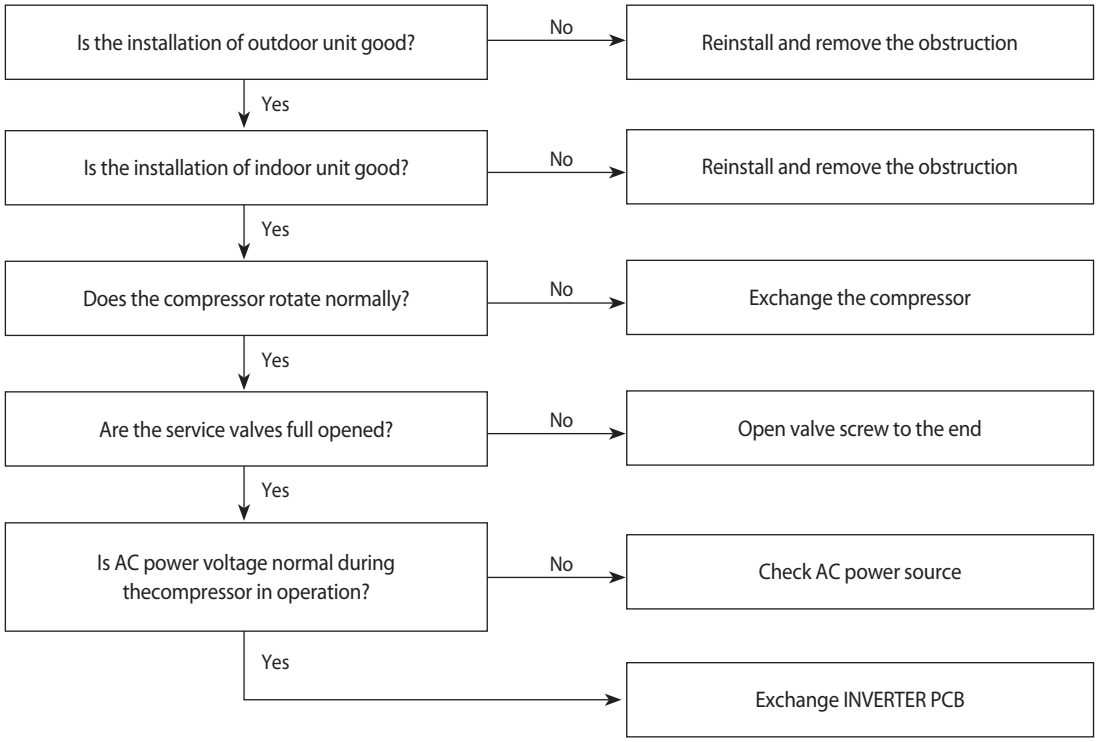
2. Troubleshooting procedure


Is the connection of FAN housing certainly to PCB socket?(CN40, CN41)
No
Check AC power source. Reconnect wires correctly
Yes
Take off each Fan motor housing after 1 minutes from turning off the power
Is each resistance of FAN cable housing pin #1-#3 over 1Mohm, pin #4-#3, #5-#3 and #6-#3 over 1Kohm on each FAN motor?
No
Exchange the FAN motor because of driver inside of the motor case broken
Yes
TEST operation
press K900 button on the MAIN PCB after power on.
- once : cooling mode
- twice in a second : heating mode
Mount each Fan housing to PCB socket and turn on the power
Is the Pin voltage #1 - #3 of CN40 and 41over 250V?
No
Follow the check procedure of outdoor unit power supply error check
Yes
Is the Pin voltage #5 - #3 of CN40 and 41 15V?
No
Exchange INVERTER PCB
Yes
Is the Pin voltage #5 - #3 of CN40 and 41within 1-6V during the operation?
No
Exchange INVERTER PCB
Yes
Is the Fan in rotation during TEST operation in cooling mode
No
Exchange the FAN motor not in rotation
Yes
Is the Pin voltage #6 - #3 of CN40 and 41changed high(4-5V) and low(0-1V) in case ofmaking manual rotation slowly?
Yes
Exchange INVERTER PCB
No
Is the Pin voltage #7 - #3 of CN40 and 41 low(0-1V) in normal rotation?
No
Exchange the FAN motor
Yes
Exchange the FAN motor

4-5-4 Total current trip error

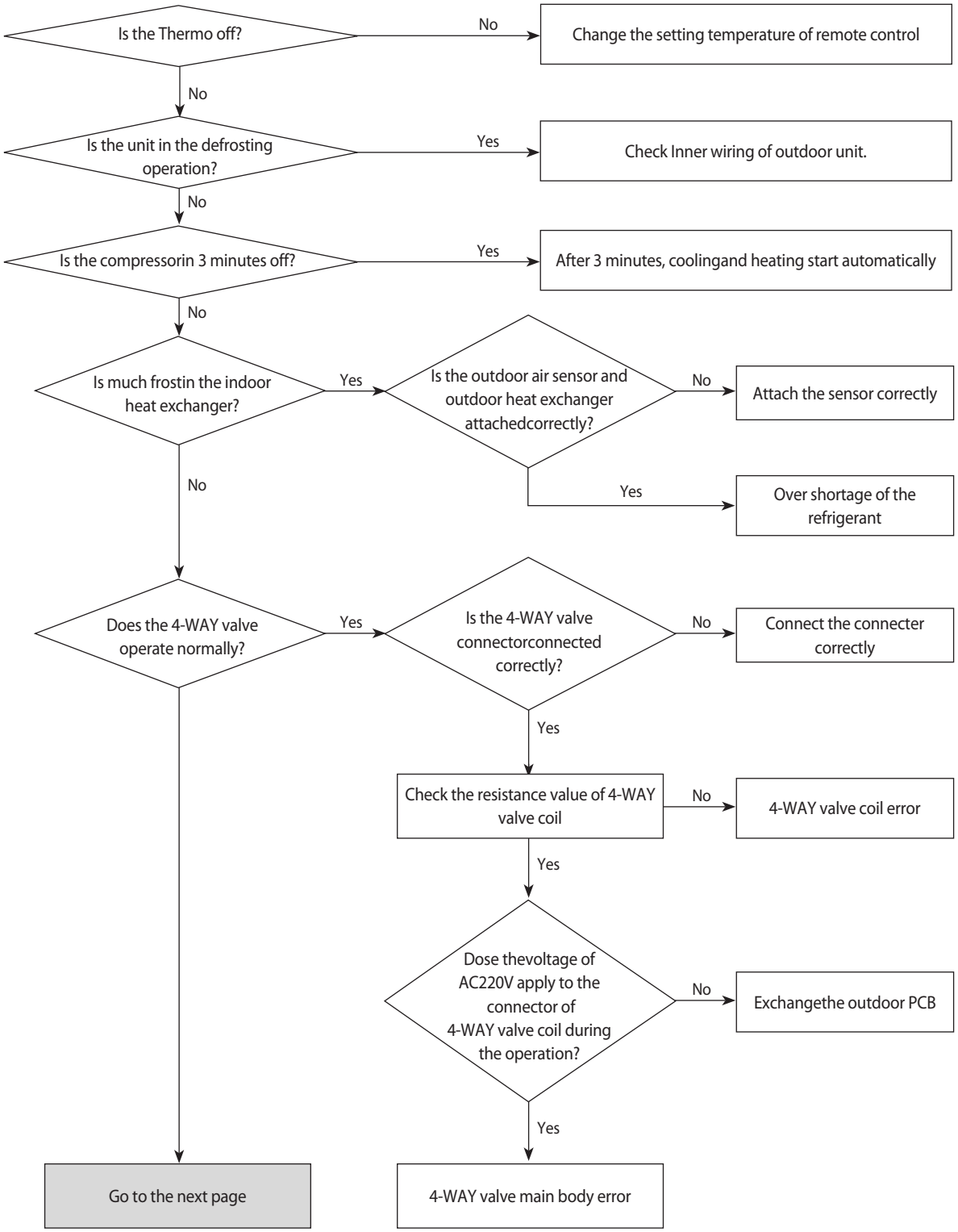
1. Checklist :
   1) Is the input power voltage proper?
   2) Is the refrigerant charged properly?
   3) Does the compressor rotate normally?(Reverse rotation, Locking etc.)
   4) Does the outdoor fan operate normally?(Fan propeller loss, Motor error ect.)
   5) Is the installation condition of outdoor unit good?(Piping, Space etc.)
   6) Is there no ventilation obstruction at the surrounding of outdoor unit?(Outdoor unit cover, Fan front obstruction etc.)
   7) Is there no ventilation obstruction at the surrounding of indoor unit?(Overload condition in heating mode)

2. Troubleshooting procedure

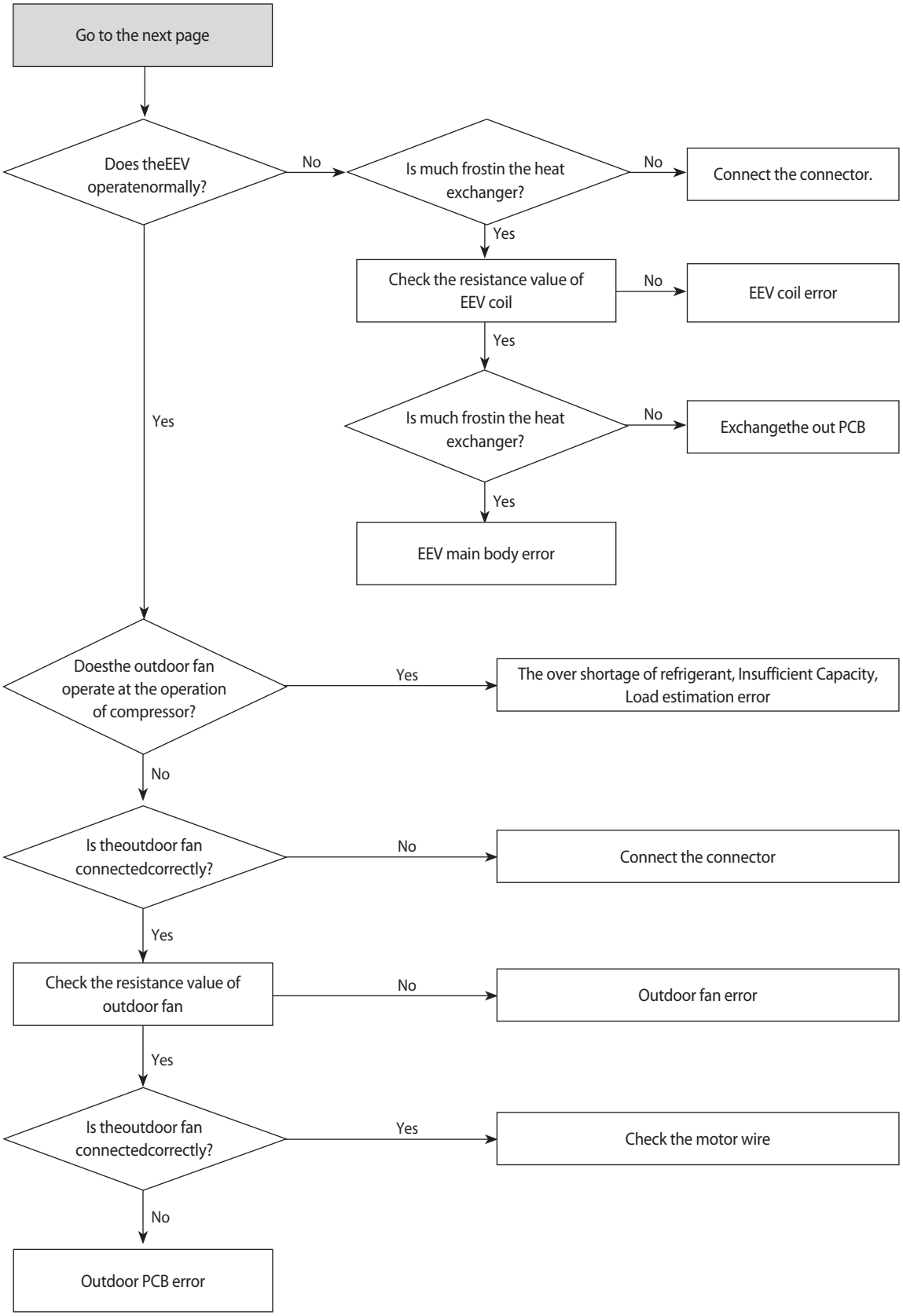


4-5-5 In case of heating at the cooling mode or cooling at the heating mode

1. Troubleshooting procedure



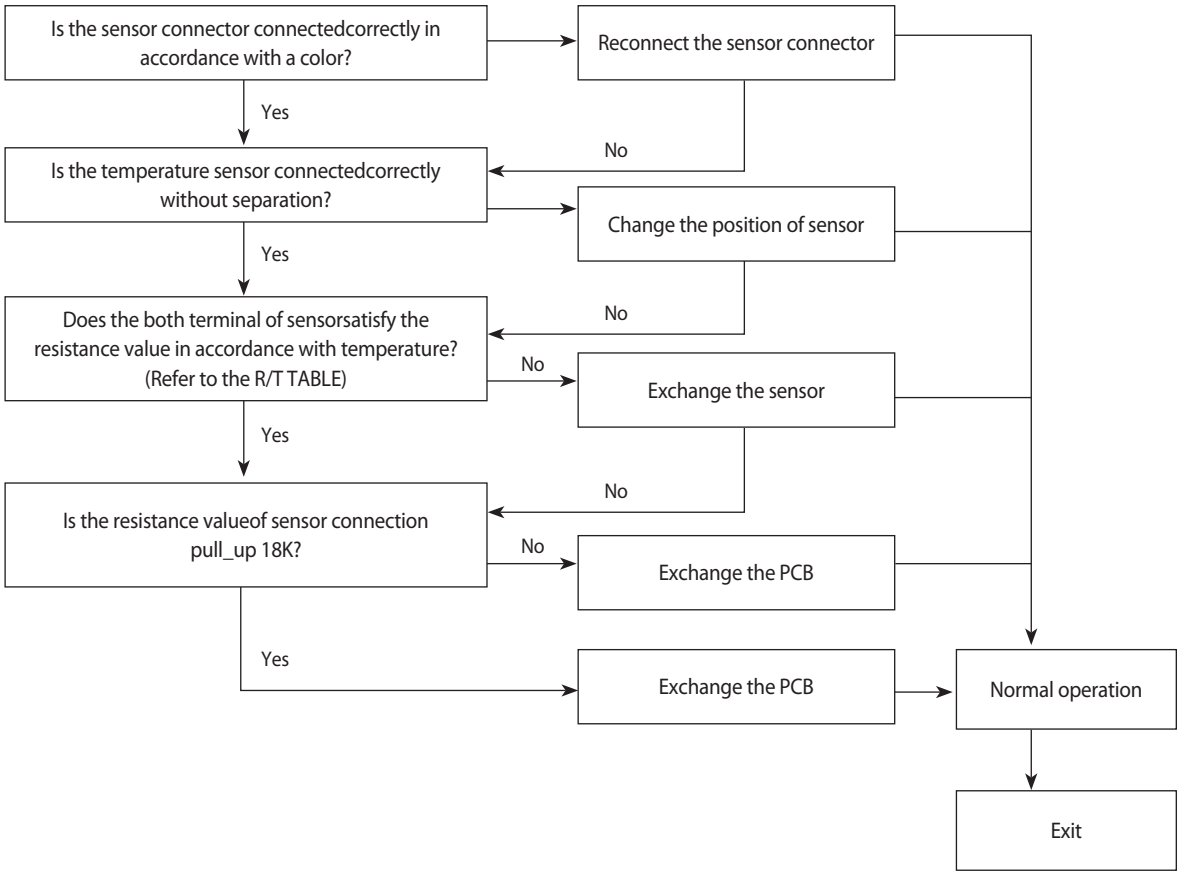
4-5-5 In case of heating at the cooling mode or cooling at the heating mode(cont.)

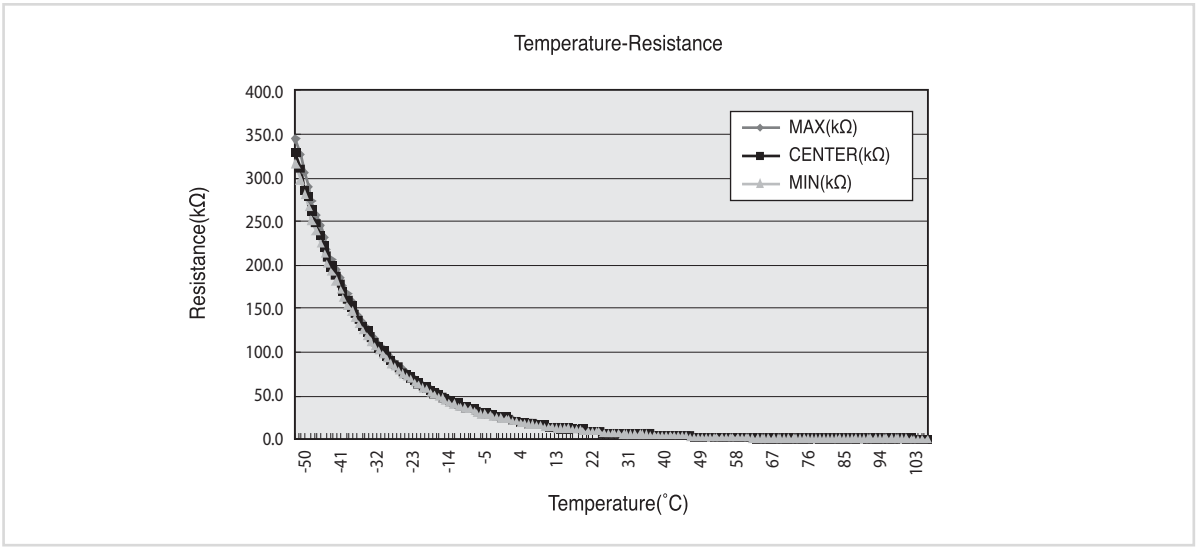


4-5-6 Outdoor temperature sensor error

1. Checklist :
   1) Is the sensor connector connected correctly?
   2) Is the sensor placed correctly?
   3) Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
   4) Is the resistance value of sensor connection pull_up correct?

2. Troubleshooting procedure

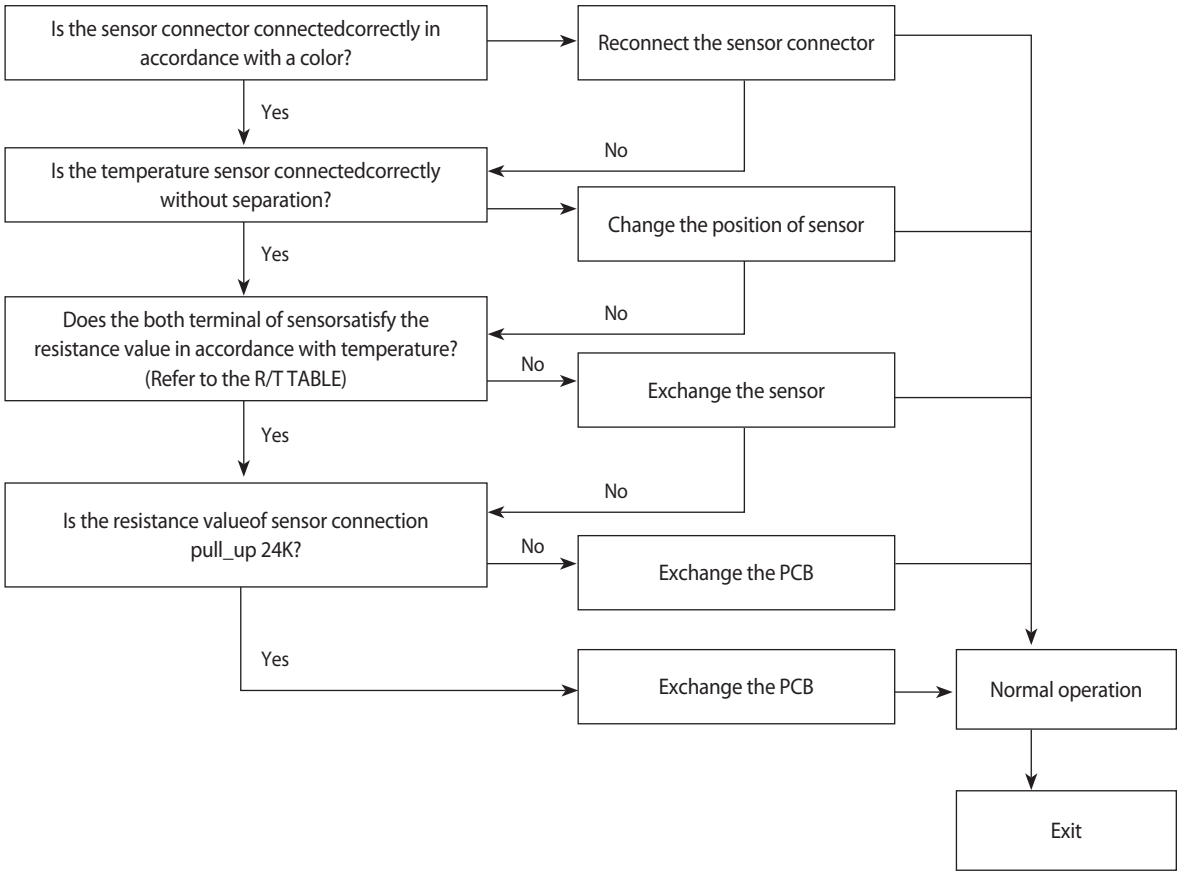


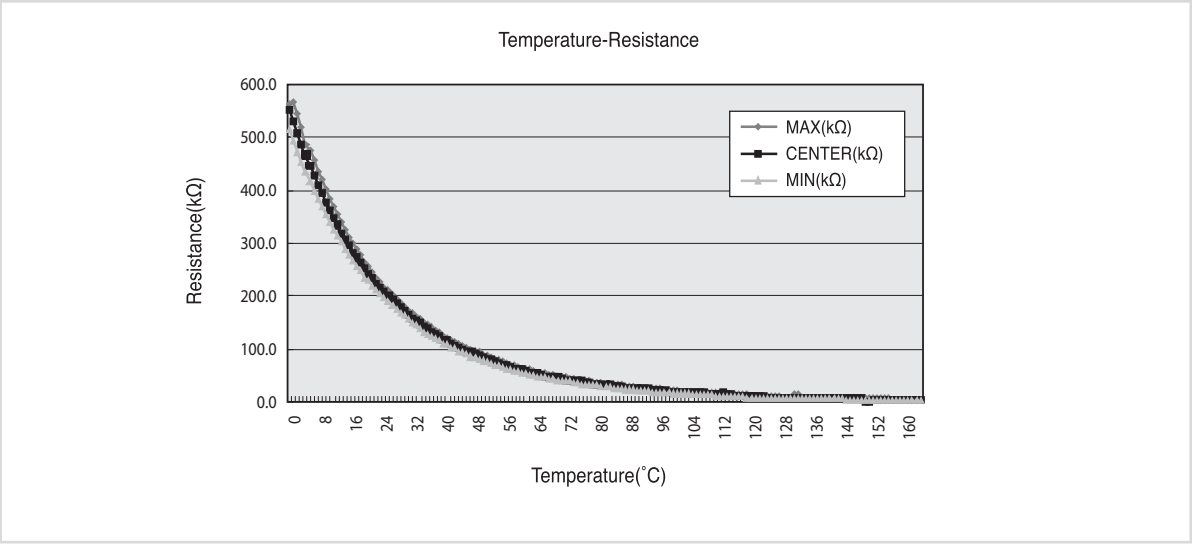


4-5-7 Discharge temperature sensor error

1. Checklist :
   1) Is the sensor connector connected correctly?
   2) Is the sensor placed correctly?
   3) Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
   4) Is the resistance value of sensor connection pull_up correct?

2. Troubleshooting procedure

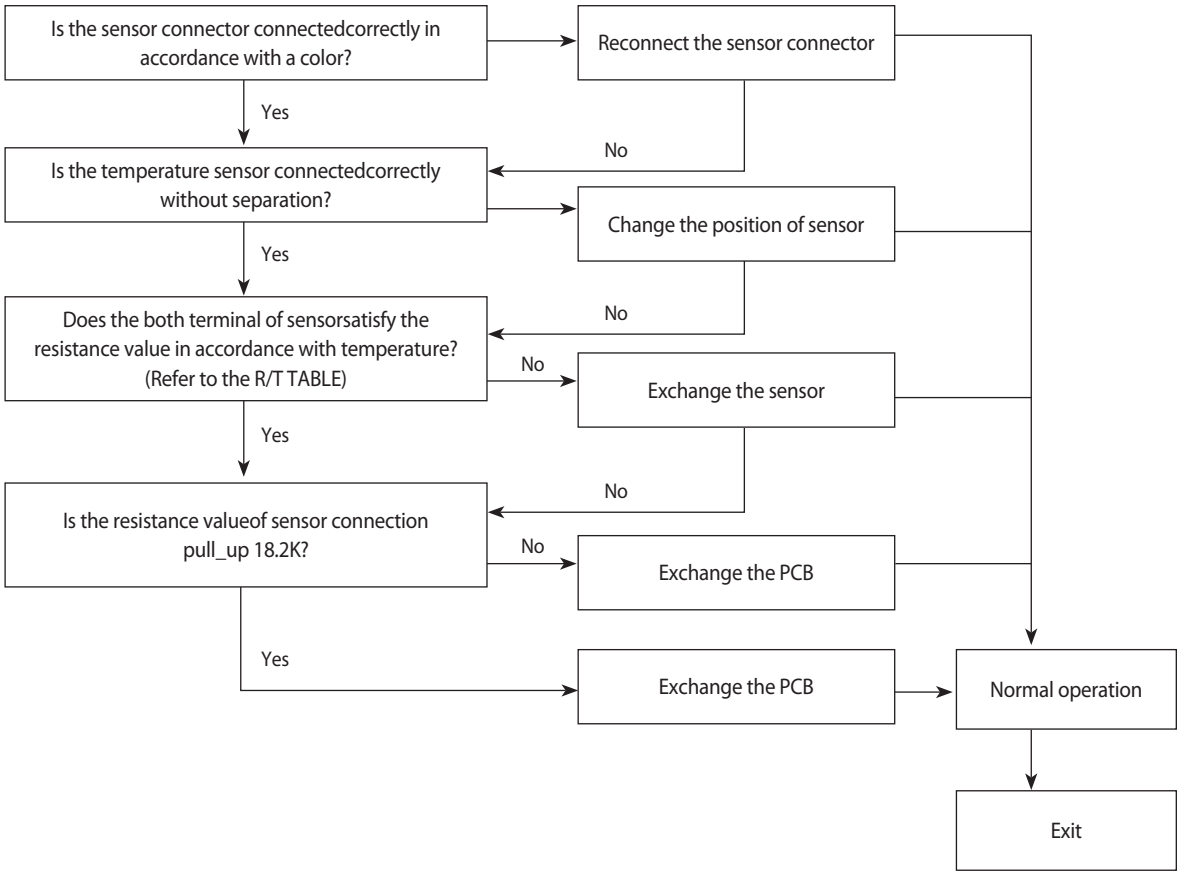


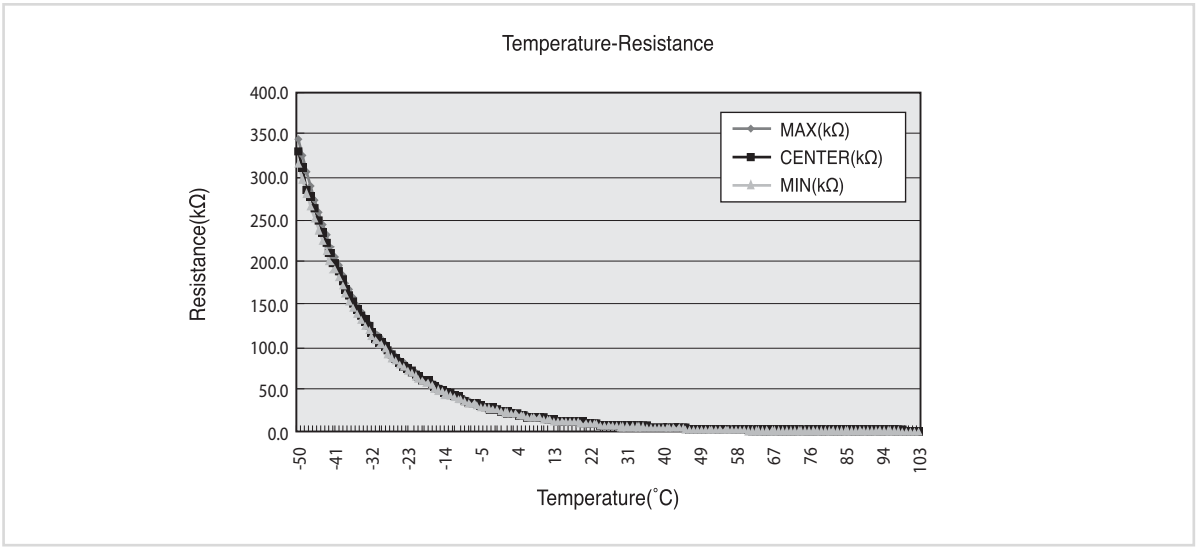


4-5-8 Coil temperature sensor error

1. Checklist :
   1) Is the sensor connector connected correctly?
   2) Is the sensor placed correctly?
   3) Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
   4) Is the resistance value of sensor connection pull_up correct?

2. Troubleshooting procedure

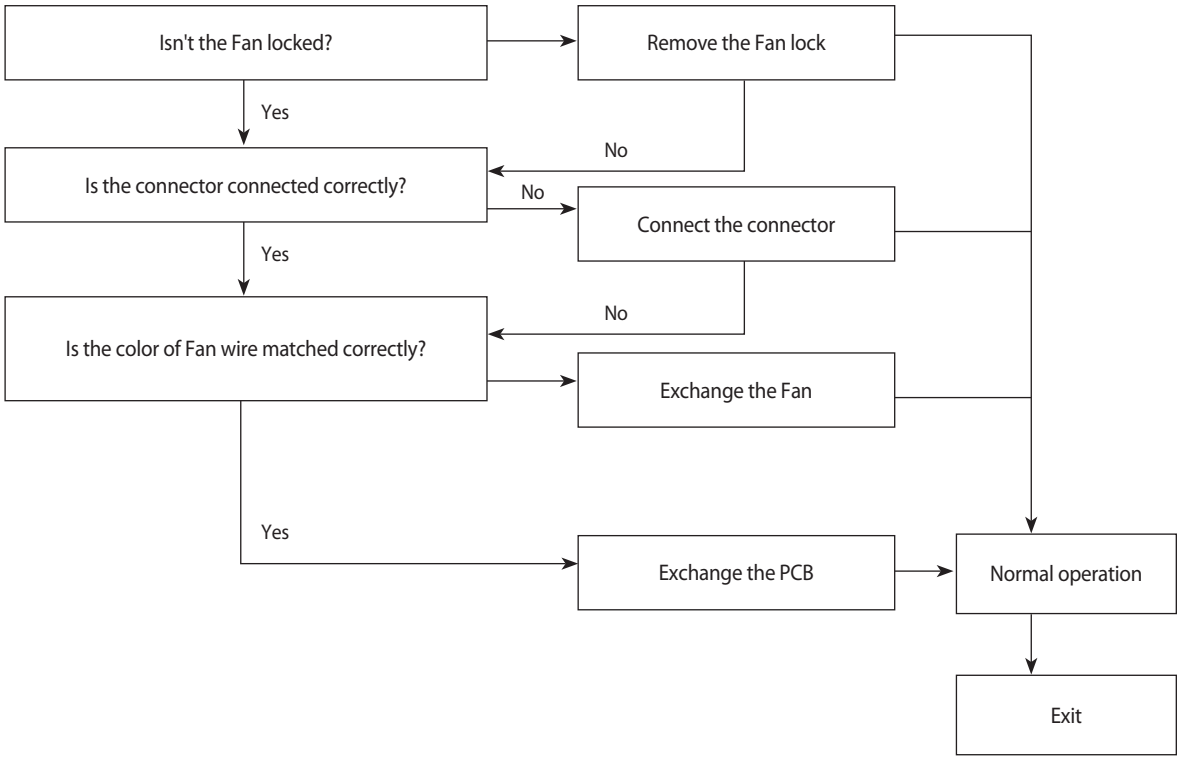




4-5-9 Fan error

1. Checklist :
   1) Isn't the fan locked?
   2) Is the sensor placed correctly?
   3) Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
   4) Is the resistance value of sensor connection pull_up correct?

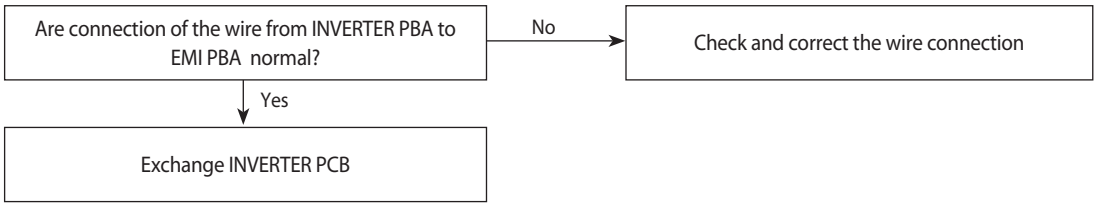
2. Troubleshooting procedure



4-5-10 DC-Link voltage sensor error

1. Checklist :
   1) Is the connection of R, S, T power wire normal?
   2) Are Relay RY21 and R200 on the INVERTER PCB mounted normally?

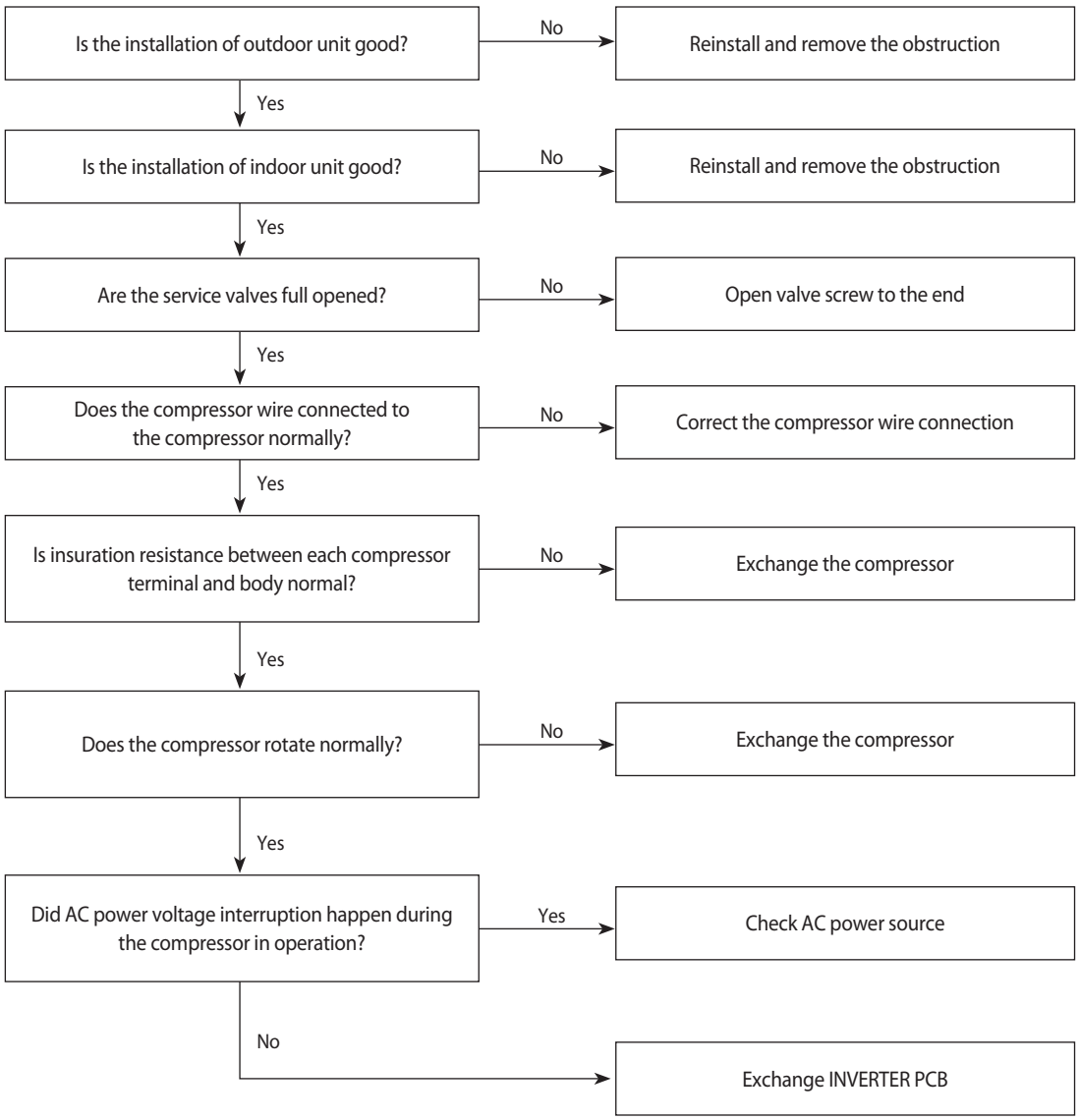
2. Troubleshooting procedure


Are connection of the wire from INVERTER PBA to EMI PBA normal?
No
Check and correct the wire connection
Yes
Exchange INVERTER PCB

4-5-11 O.C.(Over Cirrent) error

1. Checklist :
   1) Is the refrigerant charged properly?
   2) Does the compressor rotate normally?(Reverse rotation, Locking etc.)
   3) Is connection of compressor wire normal?
   4) Is compressor motor normal?(Insulation, Coil resistance etc.)
   5) Does a temporary cycle overload condition happened?

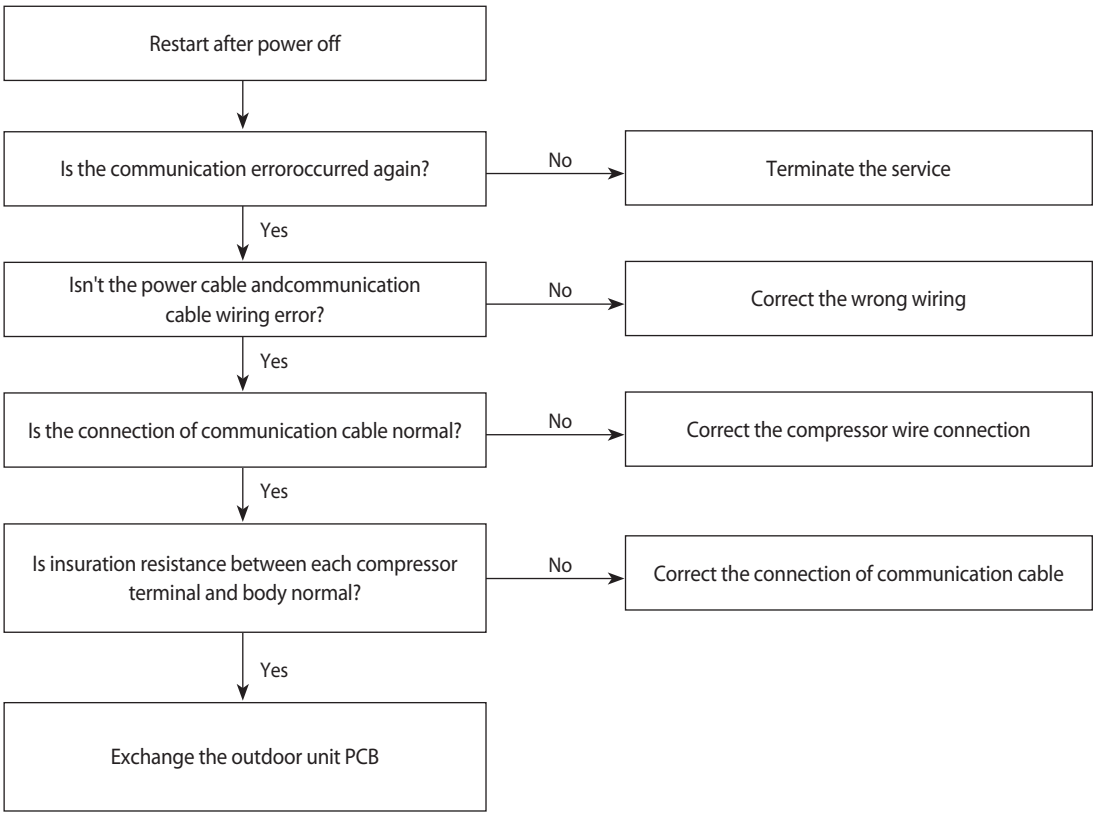
2. Troubleshooting procedure



4-5-12 Communication error

1. Checklist :
   1) Is the communication cable between the indoor unit and outdoor unit connected correctly?
   2) Isn't the power cable and communication cable wiring error?

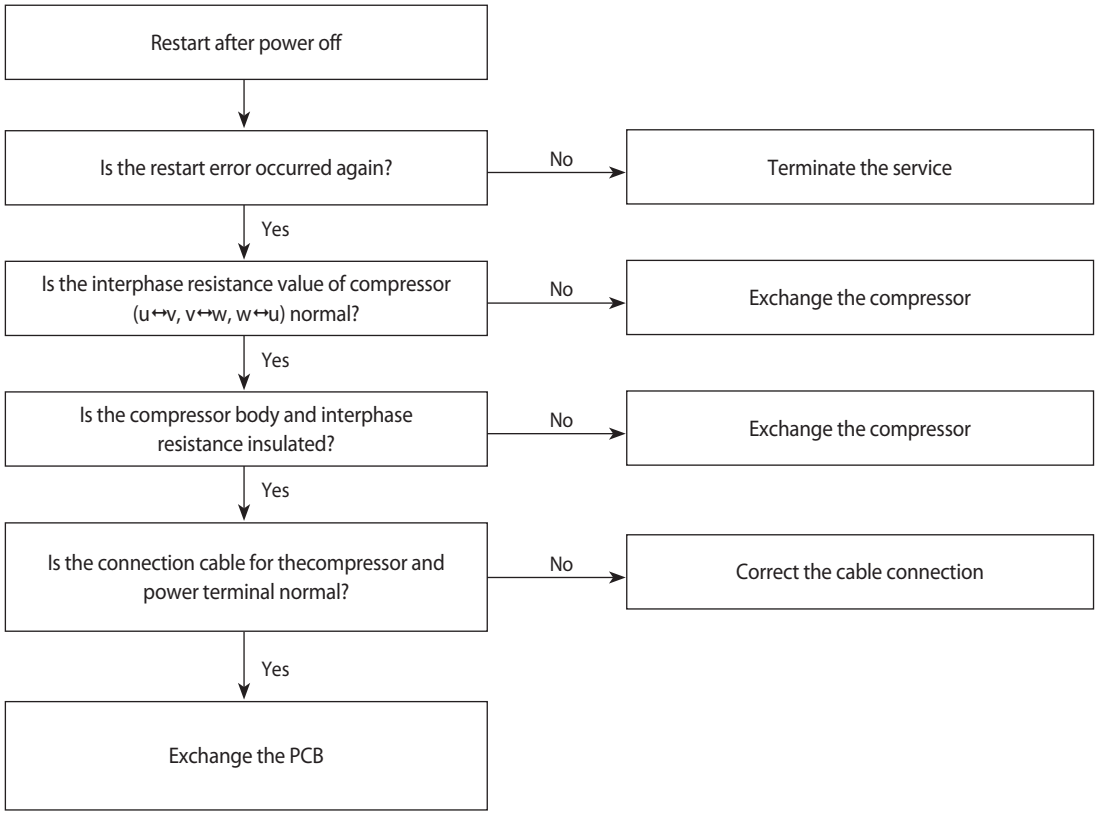
2. Troubleshooting procedure



4-5-13 Compressor start error

1. Checklist :
   1) Is the connection of cable for the compressor and power?
   2) Is the interphase resistance of compressor normal?

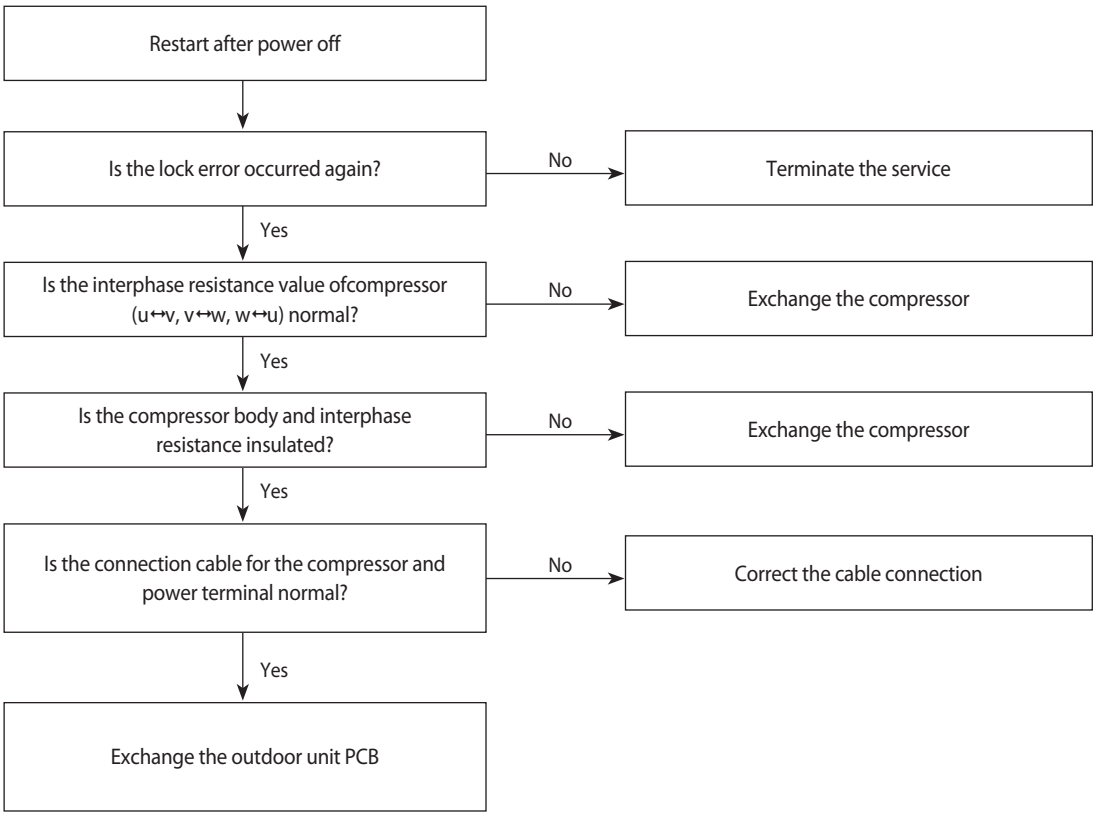
2. Troubleshooting procedure



4-5-14 Compressor lock error

1. Checklist :
   1) Is the connection of cable for the compressor and power?
   2) Is the interphase resistance of compressor normal?

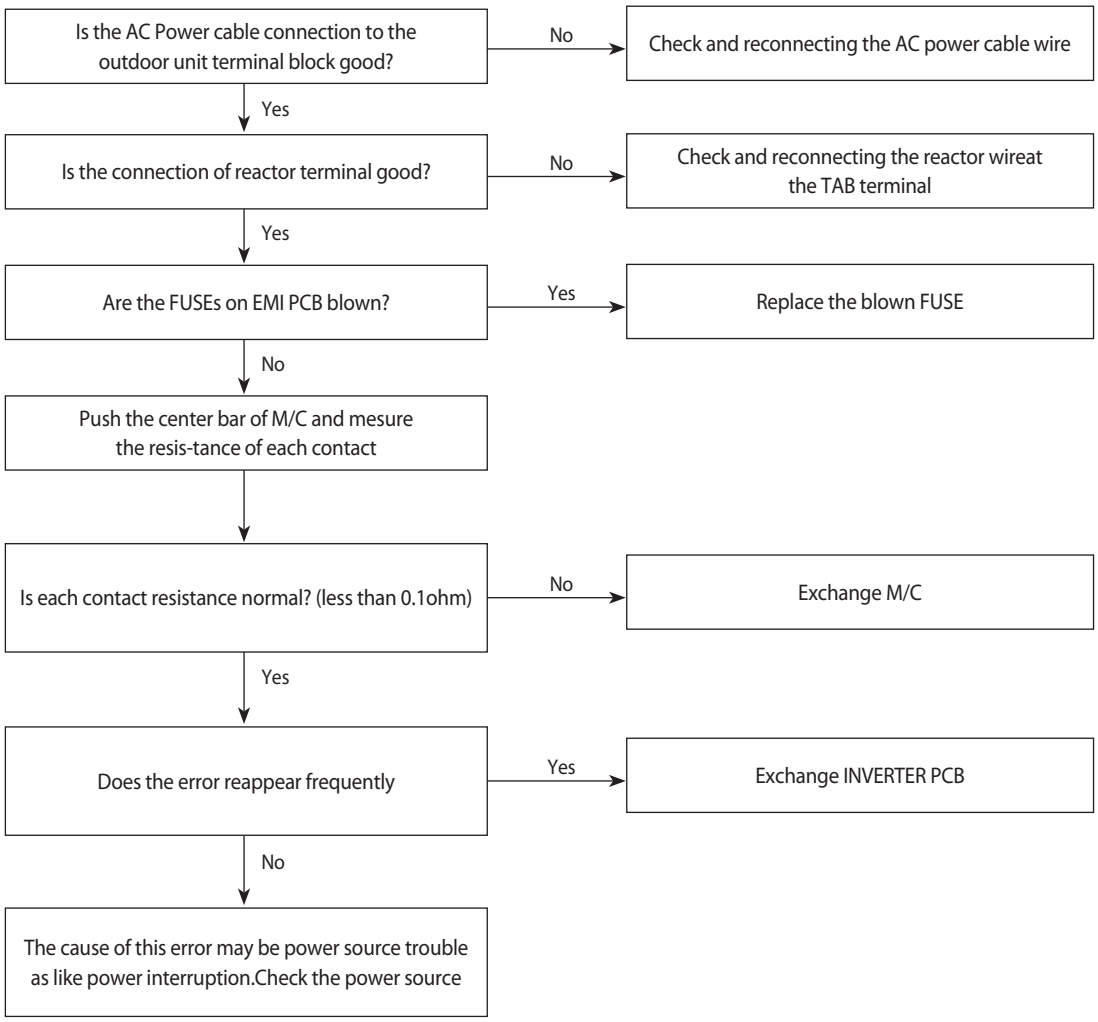
2. Troubleshooting procedure



4-5-15 DC Link Over voltage/Low voltage error

1. Checklist :
   1) Is the power voltage normal?(Lightning, Power interruption etc.)
   2) Is AC Power cable connection normal?(Detaching the wire)

2. Troubleshooting procedure


Is the AC Power cable connection to the outdoor unit terminal block good?
No
Check and reconnecting the AC power cable wire
Yes
Is the connection of reactor terminal good?
No
Check and reconnecting the reactor wireat the TAB terminal
Yes
Are the FUSEs on EMI PCB blown?
Yes
Replace the blown FUSE
No
Push the center bar of M/C and mesure the resis-tance of each contact
Is each contact resistance normal? (less than 0.1ohm)
No
Exchange M/C
Yes
Does the error reappear frequently
Yes
Exchange INVERTER PCB
No
The cause of this error may be power source trouble as like power interruption.Check the power source

4-6 PCB Inspection Method

4-6-1 Pre-inspection Notices

1. Turn off the breaker, AC power source, before disassembling the unit because of electrical hazard.
2. Confirm the complete discharge of capacitor C102, C702, C703, C704, C705, C706, C707 on the INVERTER PCB when you touch the PCB. Especially dischargeing speed of C702-C707 is very slow because of little load in stand-by condition. To confirm the voltae of 702-C707, measure the DC link voltage at the IGBT module pins near C701 at which applying voltage (450-510Vdc) is marked. To confirm discharging of C102, measure the voltage of non mounted C103 solder hole or check if all LEDs are off.
3. Don't touch the metal body of electrolytic capacitor for avoiding electrical shock before confirming discharge.
4. To discharging the capacitor use power resistor of about 1 Kohm 10W. Soldering tool(non electronic temperature control type) can be used as a discharging resistor.
5. Don't pull the lead wire but hold the whole housing to disconnect or connect a housing from or to the PCB.

4-6-2 Inspection Procedure

1. Check the connection of each housing to the connector first and the peeling of PCB copper pattern.
2. The PCB is composed of the 3 part in the indoor unit.
   - INDOOR Main PCB part : Indoor unit control, MICOM and surrounding circuit, relay, fan motor driving circuit, sensor reading circuit, buzzer driving circuit and DC power supplying circuit.
   - Display PCB part : LED lamps, Switch,Remocon module.
   - INDOOR EMI PCB part : Line filter, Noise Capacitor and Varistor
3. The PCB is composed of the 3 part in the outdoor unit.
   - EMI PCB part : Line filter for electrical noise, Varistors for surge and Fuses.
   - MAIN PCB part : Refrigeration cycle controller with MICOM
   - INVERTER PCB part : Compressor driving inverter and BLDC fan controller

4-6-3 Indoor Detailed Inspection Procedure

No	Procedure	Inspection Method	Cause
1	Open the electronic component box and check the PCB fuse	Turn off the power 1) Is the Fuse F701 on the EMI PCB blown? 2) Is the Fuse F702 on the MAIM PCB blown?	• Over current • Indoor fan motor short • PCB AC Part pattern short
2	Check the LEDs for DC power and communication condition	Turn off the power 1) Is RED LED blinking? his led means micom is running normally 2) Is GREEN LED blinking? This means communication between Indoor and Outdoor unit is on 3) Is YELLOW LED blinking? This means communication between Indoor and wired remote controller is on It may take one minute to start communication	• Communication ciucuit trouble • Communication wire connection trouble • Wrong connection for power supply wire of remote controller
3	Check the DIP and rotary switch on the PCB	1) Is the setting of each switch proper?	• Wrong setting of switch
4	Check the DC voltage	1) Is the voltage of CN32 pin #1-#2 12V? 2) Is the voltage of C109 V?	• SMPS on MAIN PBA trouble • Load short
5	FAN operation checking Press the ON/OFF button. 1. FAN Speed[HIGH] 2. FAN mode	1) Is the FAN motor running? 2) Is the connection of CN73 normal?	• Controller trouble inside of the fan motor • Connector trouble of CN73

4-6-4 Outdoor Detailed Inspection Procedure

No	Procedure	Inspection Method	Cause
1	Turn OFF the powerand check wire and socket connection on each part	Wait until C702-C707 discharged 1) Is connection of housing to socket normal? 2) Is connection of each wire to terminal block normal? 3) Is the reactor wire connection normal? 4) Is there no miss-wiring of each cable?	• Installation mistake • Miss assembling
2	FUSE check	Is the fuses on each PCB normal? 3 fuese on EMI PCB 1 fuse on MAIN PCB 1 fuse on INVERTER PCB	• Wire short • Overload • BLDC FAN short error
3	Turn on the powerand check voltage of terminal block	Is N-R,N-S,N-T around 230Vac? Is R-S,S-T,T-R around 400Vac? Is L-N(to indoor unit) around 230Vac? Is F1-F2 within 5Vdc?	• Miss wiring of power cable • Wire detaching
4	Check LED display on AIN P	1) Is RED LED ON? 2) Is GREEN LED Blinking once a second? 3) Is LEDs displaying error code pattern?	• MAIN PCB power trouble • Bad communication between indoor and outdoor unit • Error detection
5	Check LED display on INVERTER PCB	1) Is RED LED ON? 2) Is GREEN LED Blinking once a second? 3) Is LEDs displaying error code pattern?	• INVERTER PCB power trouble • NO communication between MAIN and INVERTER PCB • Error detection
6	Check DC voltage of SMPS output	**MAIN PCB** 1) Is voltage of CN51 pin#1-#2 12-14.5V? 2) Is voltage of C108 5V? **INVERTER PCB** 3) Is voltage of CN51 pin#1-#2 5V? 4) Is voltage of C124 12V? 5) Is voltage of each ZD100,ZD101,ZD102, ZD103 17-18V?	• SMPS circuit trouble
7	Check INVERTER PCB	1) Is resistance of R100 200ohm? To check this, touch one probe to CN10 pin#1(N) and the other to D101 upper side pin of '~' marking pins 2) Is DC Link voltage 450-510V? Check IGBT module pins marking voltage near C70	• Resister • Wire connection between EMI PCB and INVERTER PCB
8	Check BLDC fan	1) See 12-2-3 The Outdoor unit Fan error (Fault Diagnosis)	

4-7 Main Part Inspection Method

<table>
<tr><th>Part</th><th colspan="2">Breakdown Inspection Method</th></tr>
<tr><td rowspan="3">Indoor Unit Temperature Sensor</td><td colspan="2">Measure sensor resistance with a multimeter</td></tr>
<tr><td>Normal</td><td>At the normal temperature 37kΩ~8.3kΩ(-7˚C~+30˚C)</td></tr>
<tr><td>Abnormal</td><td>∞,0Ω...Open or Short</td></tr>
<tr><td rowspan="3">Indoor Unit BLDC FAN Motor</td><td colspan="2">Measure terminal resistance with a multimeter</td></tr>
<tr><td>Normal</td><td>At the normal temperature(10˚C~30˚C)
<table>
<tr><th>Wire</th><th>Pin number</th><th>Resistance</th><th>Remark</th></tr>
<tr><td>RED - BLACK</td><td>1-3</td><td>Over 1MΩ</td><td>+300V motor power</td></tr>
<tr><td>WHITE - BLACK</td><td>4-3</td><td>1KΩ ~ 2KΩ</td><td>+15V control power</td></tr>
<tr><td>YELLOW - BLACK</td><td>5-3</td><td>200KΩ ~ 300KΩ</td><td>control</td></tr>
<tr><td>BLUE - BLACK</td><td>6-3</td><td>10KΩ ~ 50KΩ</td><td>pulse</td></tr>
</table></td></tr>
<tr><td>Abnormal</td><td>∞,0Ω...Open or Short</td></tr>
<tr><td rowspan="3">Outdoor Unit
Outdoor Temperature Sensor
&
Cond Temperature Senso</td><td colspan="2">Measure terminal resistance with a multimeter</td></tr>
<tr><td>Normal</td><td>At the normal temperature 37kΩ~8.3kΩ(-7˚C~+30˚C)
see 12-2-6 and 12-2-8</td></tr>
<tr><td>Abnormal</td><td>∞,0Ω...Open or Short</td></tr>
<tr><td rowspan="3">Outdoor Unit Discharge
Temperature Sensorr</td><td colspan="2">Measure terminal resistance with a multimeter</td></tr>
<tr><td>Normal</td><td>At the normal temperature 563kΩ~157kΩ(0˚C~+30˚C)
see 12-2-7</td></tr>
<tr><td>Abnormal</td><td>∞,0Ω...Open or Short</td></tr>
<tr><td rowspan="3">Outdoor Unit BLDC FAN MOTOR</td><td colspan="2">Measure terminal resistance with a multimeter</td></tr>
<tr><td>Normal</td><td>At the normal temperature(10˚C~30˚C)
<table>
<tr><th>Wire</th><th>Pin number</th><th>Resistance</th><th>Remark</th></tr>
<tr><td>RED - BLACK</td><td>1-3</td><td>Over 1MΩ</td><td>+300V motor power</td></tr>
<tr><td>WHITE - BLACK</td><td>4-3</td><td>1KΩ ~ 2KΩ</td><td>+15V control power</td></tr>
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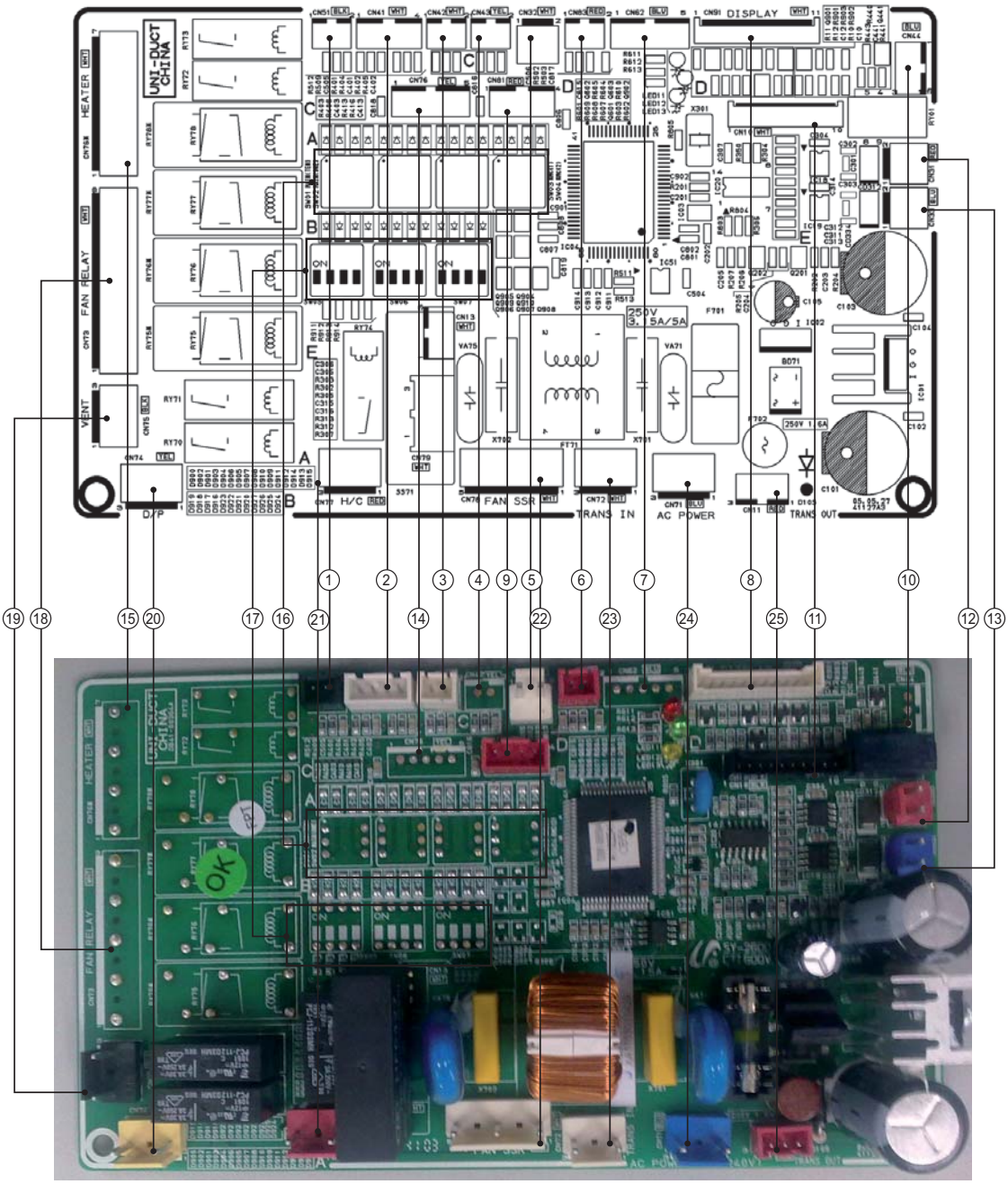
<tr><td>BLUE - BLACK</td><td>6-3</td><td>10KΩ ~ 50KΩ</td><td>pulse</td></tr>
<tr><td>ORANGE - BLACK</td><td>7-3</td><td>10KΩ ~ 50KΩ</td><td>reverse</td></tr>
</table></td></tr>
<tr><td>Abnormal</td><td>∞,0Ω...Open or Short</td></tr>
<tr><td rowspan="3">Outdoor Unit 4way Valve Solenoid</td><td colspan="2">Measure sensor resistance with a multimeter</td></tr>
<tr><td>Normal</td><td>At the normal temperature(10˚C~30˚C) 1.6KΩ±15%</td></tr>
<tr><td>Abnormal</td><td>∞,0Ω...Open or Short</td></tr>
</table>

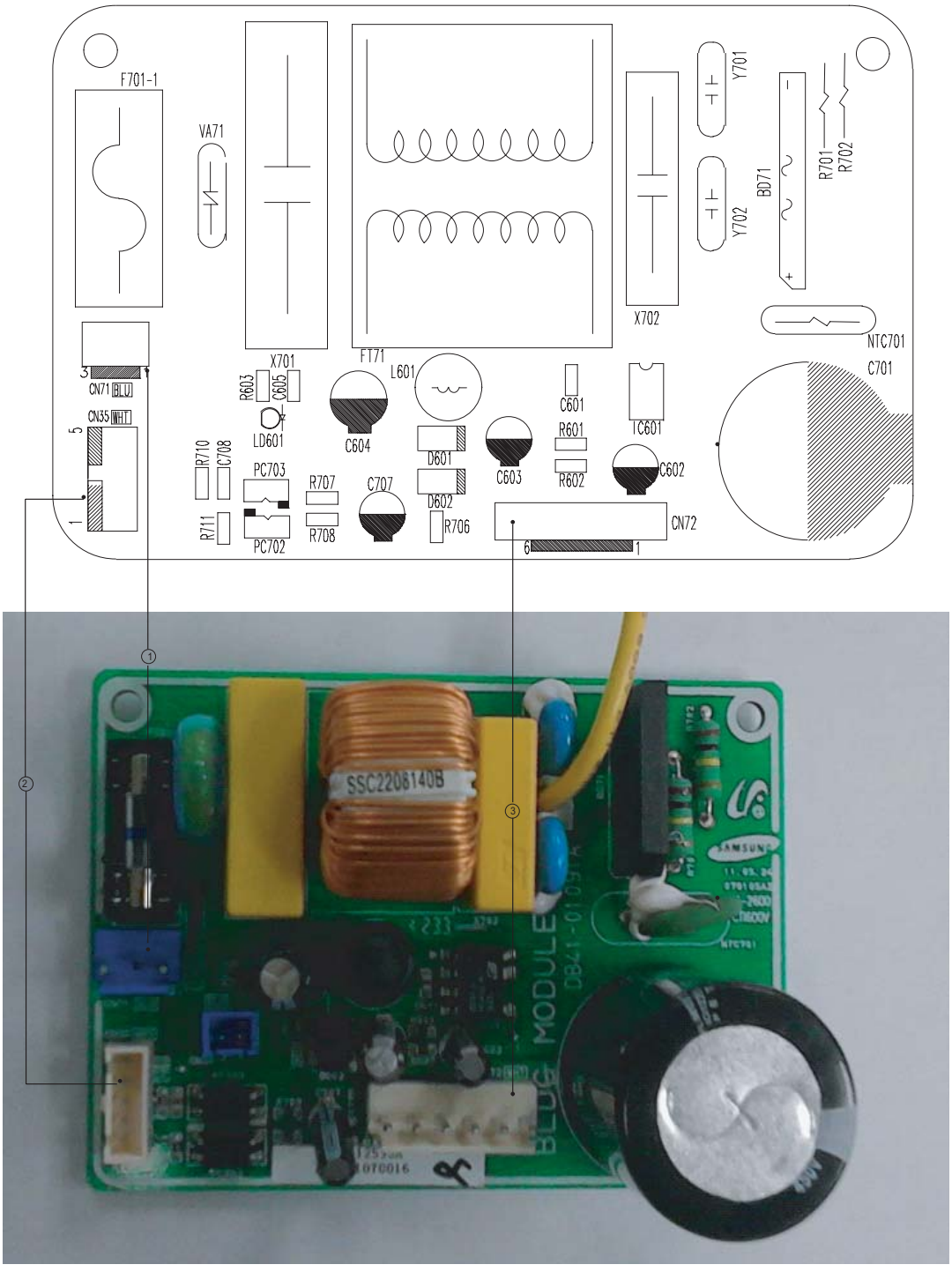
5. PCB Diagram

5-1 PCB Diagram

5-1-1 Indoor Unit



①	Floating S/W : SMW250-02(BLK)	⑬	Wired Remote Controller Communication : YW396-02(BLU)
②	Indoor Pipe In Temperature Sensor : SMW250-04(WHT)	⑭	Option Load Connector : SMW250-05(YEL)
	Indoor Room Temperature Sensor : SMW250-04(WHT)	⑮	Heater : YW39607AV(WHT)
③	Indoor Pipe Out : SMW250-02(WHT)	⑯	Indoor Address S/W
	Temperature Sensor : SMW250-02(WHT)	⑰	Indoor Option S/W
④	Heater Discharge : SMW250-02(YEL)	⑱	Indoor Fan(TAP) : YW396-09AV(WHT)
	Temperature Sensor : SMW250-02(YEL)	⑲	Ventilator : YW396-03AV(BLK)
⑤	Wired Remote Controller Power : YW396-02(WHT)	⑳	Drain Pump : YW396-03AV(YEL)
⑥	External Control(S/W Part) : SMW250-02(RED)	㉑	Hot Coil : YW396-03AV(RED)
⑦	EEV : SMW250-05(BLU) : SMW250-05(BLU)	㉒	Indoor Fan(SSR) : YW396-03AV(RED)
⑧	Display : SMW200-11(WHT) : SMW200-11(WHT)	㉓	Power : YW396-03AV(WHT)
⑨	External Control(Display Part) : SMW250-04(RED)		Transformer Out : YW396-03AV(WHT)
⑩	HALL IC : SMW250-03(BLU)	㉔	Main Power In : YW396-03AV(BLU)
⑪	MICOM Download : SMW200-10(WHT)	㉕	Power : YW396-03AV(BLU)
⑫	Indoor/Outdoor Communication : YW396-02(RED)		Transformer In : SMW250-03(RED)

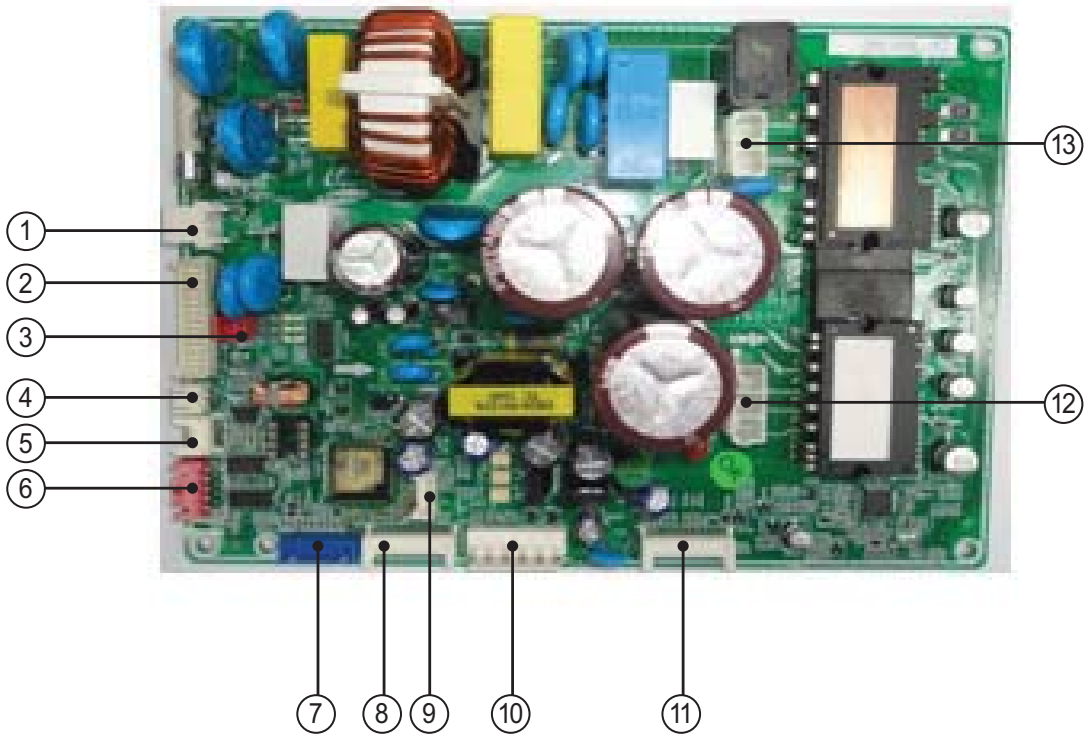


①	AC power YW396-03V(BLU)
②	PWM Signal in SMW250-05(WHT)
③	BLDC FAN YW396-06V(WHT)

5-1-2 Outdoor Unit PCB (cont.)

■ MAIN PCB

AC052FCADEH/EU

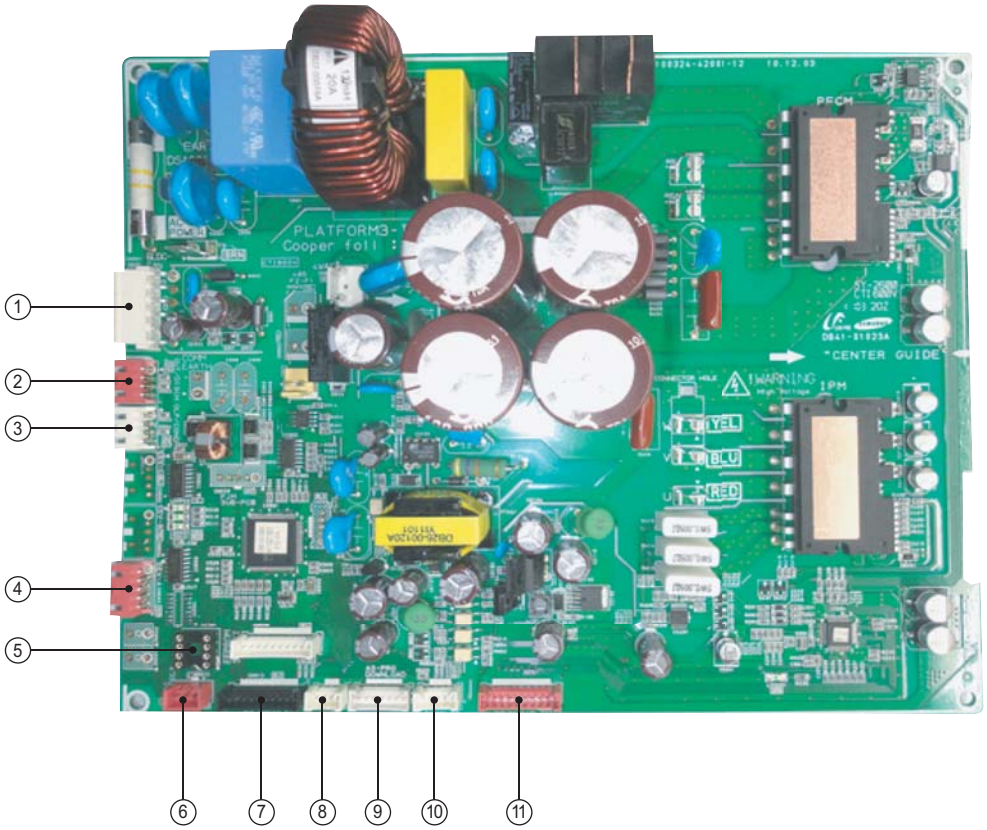


① 4WAY CONNECTOR	YAW396-03AV WHT
② MAIN-SUB CONNECTOR	SMW200-28C WHT
③ 485 COMMUNICATION CONNECTOR	SMW250-02 RED
④ OLP THERMISTOR CONNECTOR	SMAW250-02 WHT
⑤ S-NET CONNECTOR	SMW200-28C WHT
⑥ EEV-A CONNECTOR	SMAW250-06 RED
⑦ OUT/DIS/COND CONNECTOR	SMW250-06 BLU
⑧ DOWNLOAD-MAIN CONNECTOR	SMAW200-10P BLK
⑨ CENTRAL-CTL CONNECTOR	SMW200-05P WHT
⑩ BLDC-FAN CONNECTOR	YW396-06V WHT
⑪ DOWNLOAD-INV CONNECTOR	SMAW200-10P RED
⑫ COMP CONNECTOR	DBT061-3P WHT
⑬ REACTOR CONNECTOR	DBT081-2P WHT

Outdoor Unit PCB (cont.)

■ MAIN PCB

AC071FCADEH/EU

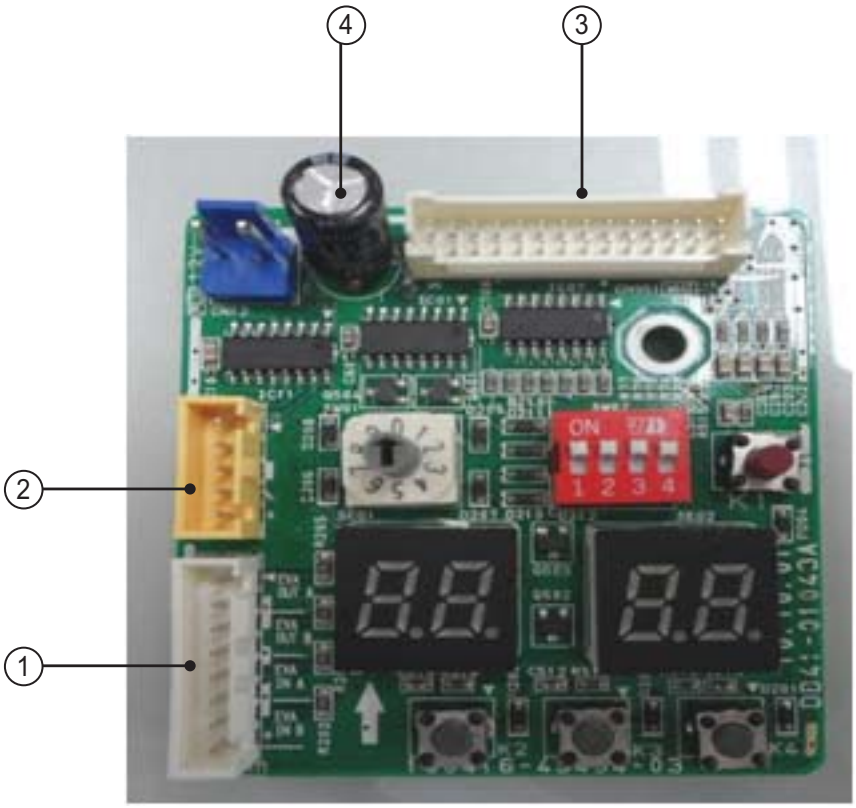


① OLP /COND THERMISTOR CONNECTOR	SMAW250A-04 WHT
② OUT/DISCHARGE THERMISTOR CONNECTOR	SMAW250A-04 RE
③ BLDC-FAN CONNETCOR	YAN396-06V WHT
④ EEV-A CONNECTOR	SMAW250A-05 RED
⑤ DISPLAY CONNECTOR	SMW200-10 NTR
⑥ DISPLAY CONNECTOR	SMAW250A-03 RED
⑦ PC DOWNLOADCONNECTOR	SMW200-10 BLK
⑧ S NE T CONNECTOR	SMW200-04 NTR
⑨ AS-PRO DOWNLOAD CONNECTOR	SMAW200A-07 WHT
⑩ DISPLAY CONNE CTORS	MW200-05 NTR
⑪ DOWNLOAD-INV CONNECTOR S	MW200-10 RED

Outdoor Unit PCB (cont.)

■ SUB PCB

AC052FCADEH/EU

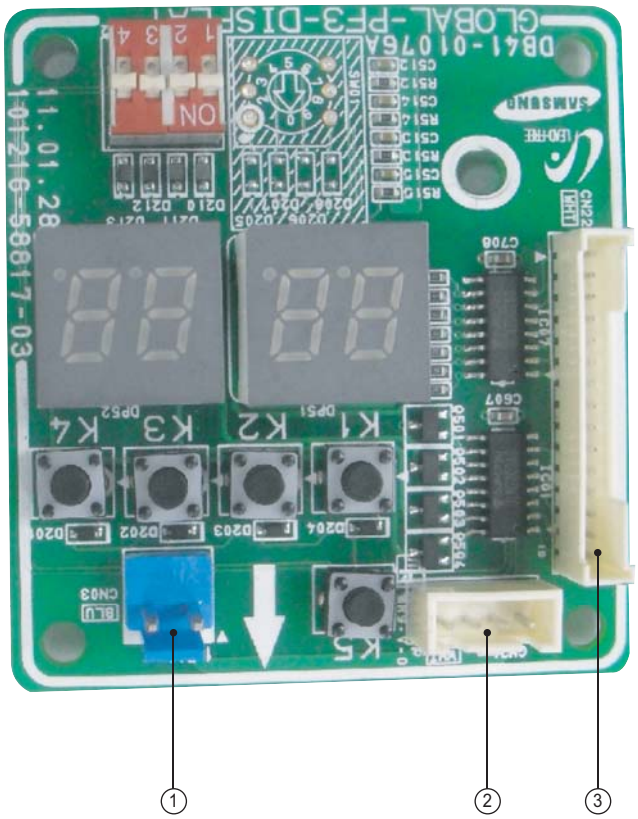


① EVAP THERMISTOR CONNECTOR	SMW250-08 WHT
② EEV-B CONNECTOR	SMW250-05 YEL
③ DISPLAY-MAIN CONNECTOR	SMW200-28 WHT
④ 12V POWER CONNECTOR	YW396-02AV BLU

Outdoor Unit PCB (cont.)

■ SUB PCB

AC071FCADEH/EU

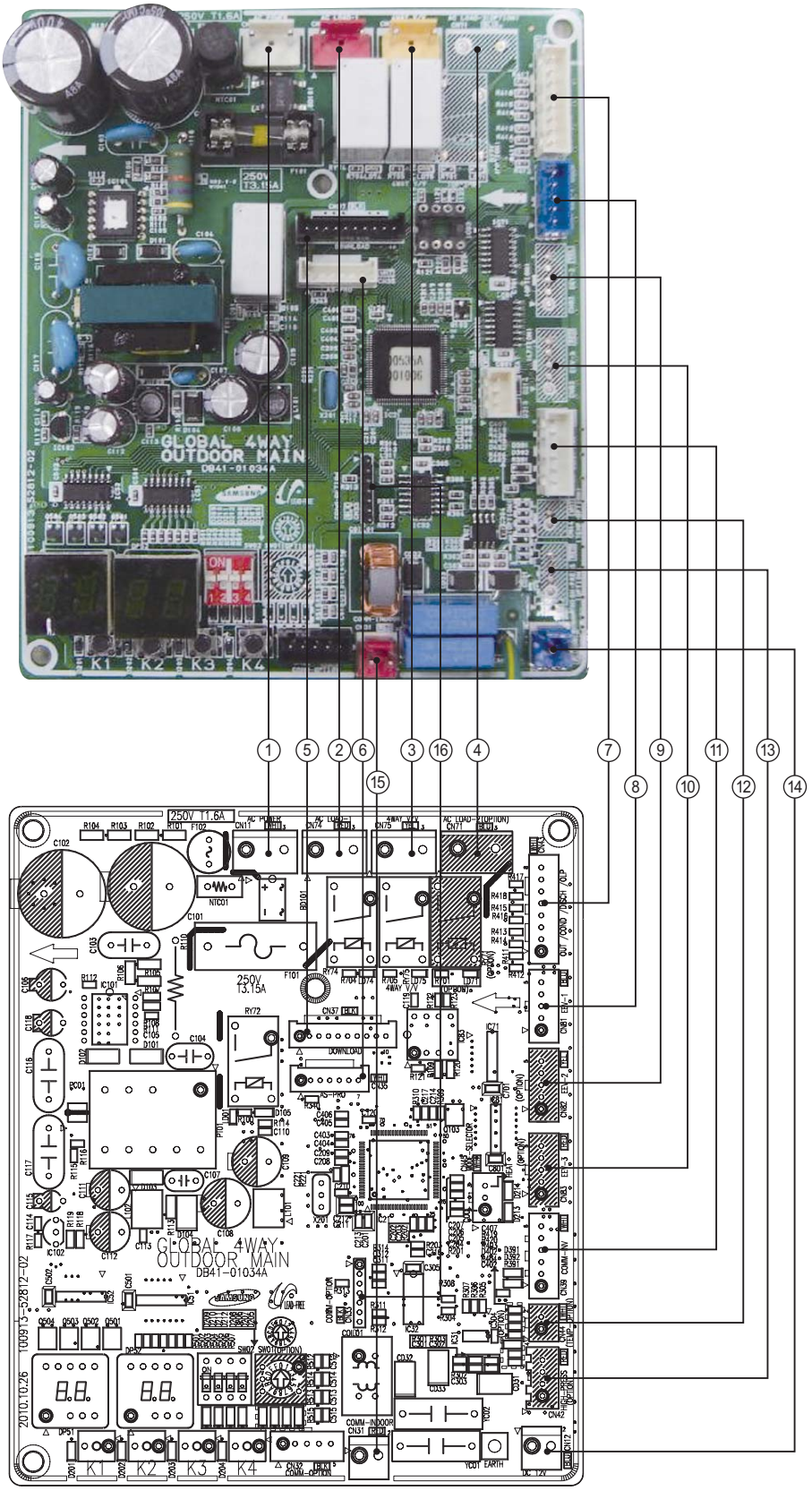


① 12V POWER CONNECTOR	YW396-02V BLU
② MAIN -SUB SIGNAL CONNECTOT	SMW250-04 WHT
③ MAIN -SUB SIGNAL CONNECTOT	SMW200-15NTR

Outdoor Unit PCB (cont.)

■ MAIN PCB

AC090FCADEH/EU AC0100FCADEH/EU AC100FCADGH/EU

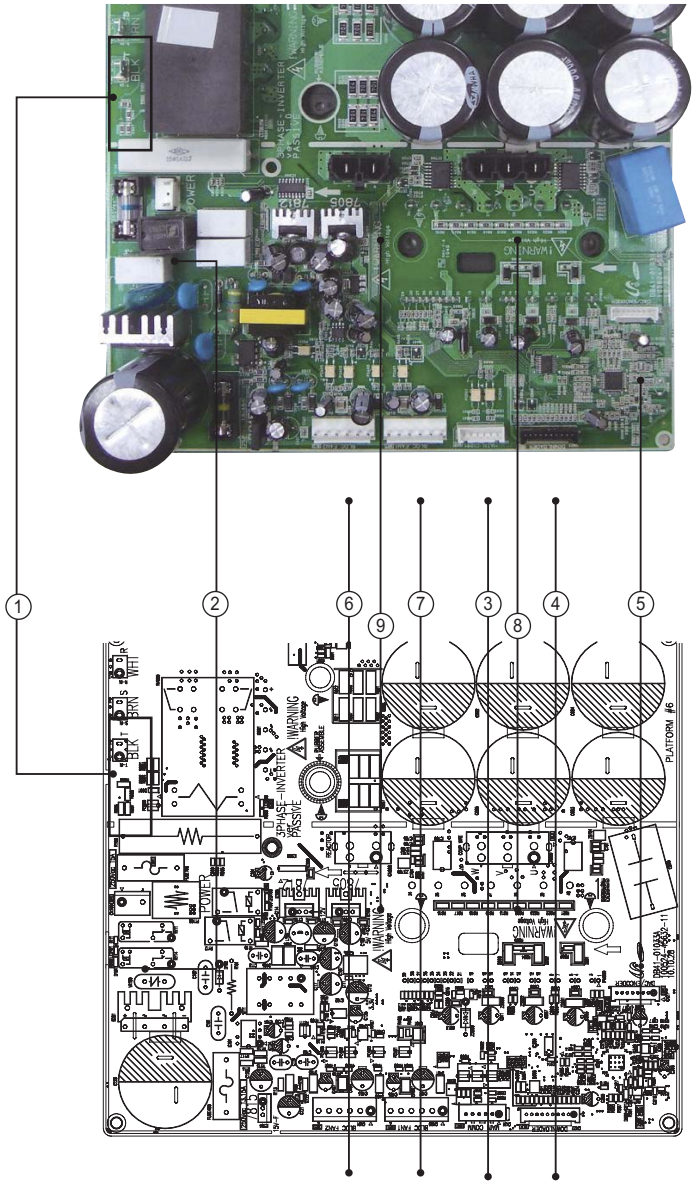


① **CN11-AC POWER** #1-#3 : 220~240Vac	② **CN74-AC LOAD1** #1-#3 : 220~240Vac	③ **CN75-4WAY V/V** #1-#3 : 220~240Vac	④ **CN71-AC LOAD2(Option)** #1-#3 : 220~240Vac
⑤ **CN37-Micom Download** #1 : RXD_INV #2 : TXD_INV #3, #8 : N.C #4 ~ #7 : Data signal #9 : GND #10 : DC 5V	⑥ **CN35-AS-PRO** #1 : DC 5V #2 : MODE #3 : Reset #4~#6 : GRID_3/1/2 #7 : GND	⑦ **CN43-Sensor** #1-#2 : Outdoor Temp. #3-#4 : Cond. Temp. #5-#6 : Discharge Temp. #7-#8 : OLP Temp.	⑧ **CN81-EEV 1** #1~#4 : Motor signal #5 : DC 12V
⑨ **CN82-EEV 2(Option)** #1~#4 : Motor signal #5 : DC 12V	⑩ **CN83-EEV 3(Option)** #1~#4 : Motor signal #5 : DC 12V	⑪ **CN39-COMM-INV** #1 : TXD #2 : RXD #3 : GND #4 : DC 5V #5 : DC 12V #6 : INV. SMPS signal	⑫ **CN44-TEMP OPTION(Option)** #1 : Temp. signal #2 : GND
⑬ **CN42-High Pressure(Option)** #1 : High Pressure temp. signal #3 : GND #4 : DC 5V	⑭ **CN12-DC12V** #1 : DC 12V #2 : GND	⑮ **CN31-Comm.** #1 : COM1 #2 : COM2	⑯ **CN33-Sub Comm.** #1 : DC 12V #2 : GND #3 : DC 5V #4 : COM1 #5 : COM2

Outdoor Unit PCB (cont.)

■ Inverter PCB : 3Phase

AC100FCADGH/EU

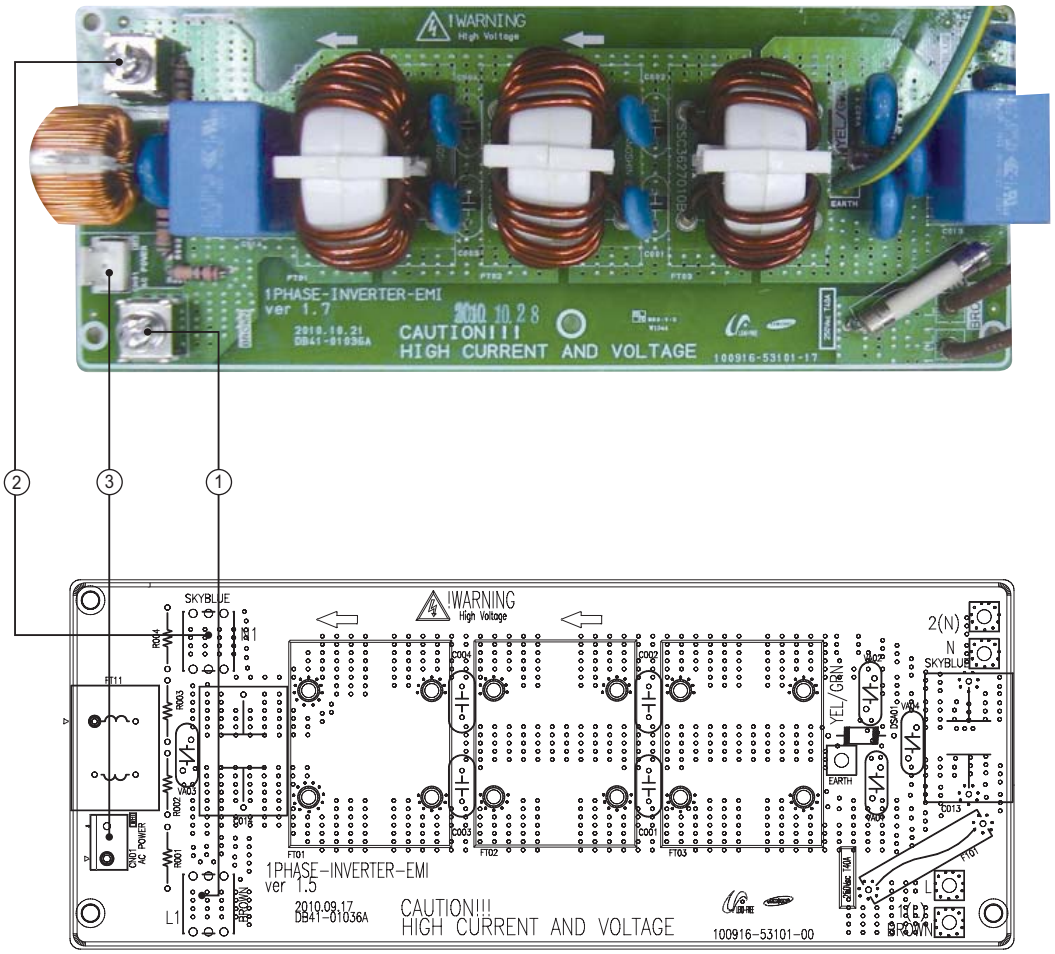


① **RST-AC POWER 3phase** #R : AC 380~400V : WHT #S : AC 380~400V : BRN #T : AC 380~400V : BLK	② **CN100-AC POWER** #1-#3 : AC 220~240V	③ **CN31-MAIN COMM** #1 : RXD , #2 : TXD #3 : GND, #4 : DC 5V #5 : DC 12V, #6 : INV. SMPS signal	④ **CN22-Downloader** #1 : RXD_ATARO, #2 : TXD_ATARO #3, #8 : N.C, #4~#7 : DATA signal #9 : GND, #10 : DC 5V
⑤ **CN21-DAC/ENCODER** For S/W engineer debugging	⑥ **CN91-FAN2** #1 : DC 360V, #2 : N.C #3 : GND, #4 : DC 15V #5 : FAN RPM, #6 : FAN RPM feedback	⑦ **CN90-FAN1** #1 : DC 360V, #2 : N.C #3 : GND, #4 : DC 15V #5 : FAN RPM, #6 : FAN RPM feedback	⑧ **CN800-COMP.** #1 : COMP. U-phase(RED) #2 : COMP. V-phase(BLU) #3 : COMP. U-phase(YEL)
⑨ **CN600-REACTOR** #1-#2 : DCL Reactor			

Outdoor Unit PCB (cont.)

■ EMI PCB : 1Phase

AC090FCADEH/EU AC0100FCADEH/EU

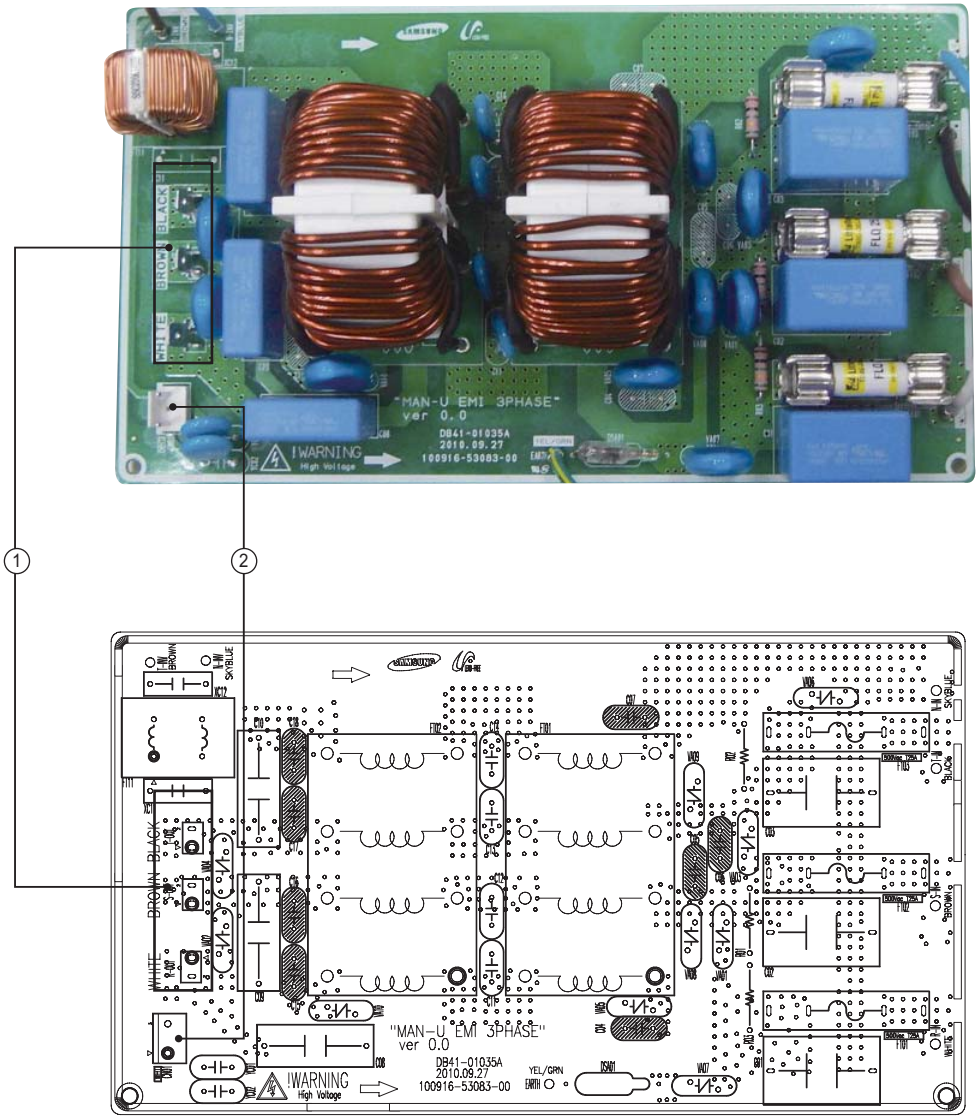


① L1-AC POWER L phase	② N1-AC POWER N phase	③ CN01-AC POWER
L1 : BRN	N1 : SKY-BLU	#1-#3 : AC 220~240V

Outdoor Unit PCB (cont.)

■ EMI PCB : 3Phase

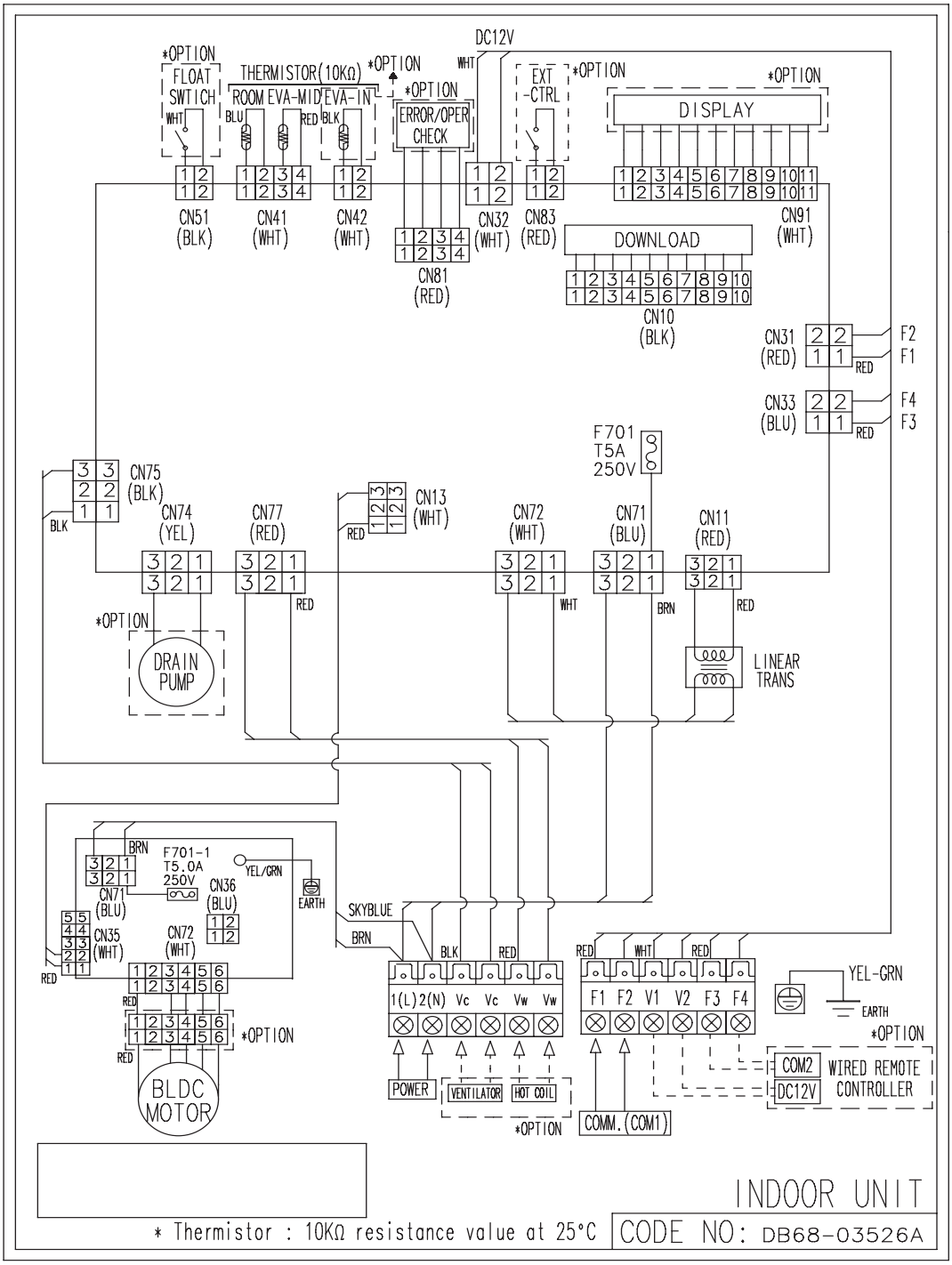
AC100FCADGH/EU



① RST-AC POWER 3phase	② CN100-AC POWER
#R : AC 380~400V : WHT #S : AC 380~400V : BRN #T : AC 380~400V : BLK	#1-#3 : AC 220~240V

6. Wiring Diagram

6-1 Indoor Unit



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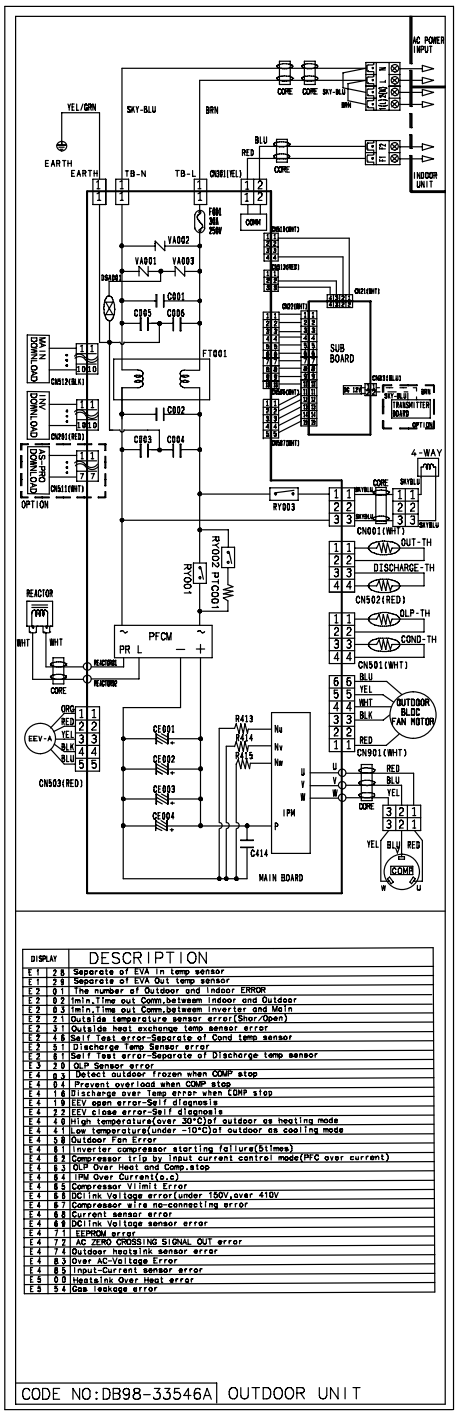
6-2 Outdoor Unit

■ Outdoor Unit :

AC071FCADEH/EU



DISPLAY	DESCRIPTION
E1 28	Separate of EVA in temp sensor
E1 29	Separate of EVA Out temp sensor
E2 01	The number of Outdoor and Indoor ERROR
E2 02	Imin.Time out Comm.between indoor and Outdoor
E2 03	Imin.Time out Comm.between inverter and Main
E2 21	Outside temperature sensor error(Shor/Open)
E2 31	Outside heat exchange temp sensor error
E2 46	Self Test error-Separate of Cond temp sensor
E2 51	Discharge Temp Sensor error
E2 61	Self Test error-Separate of Discharge temp sensor
E3 20	OLP Sensor error
E4 03	Detect outdoor frozen when COMP stop
E4 04	Prevent overload when COMP stop
E4 16	Discharge over Temp error when COMP stop
E4 19	EEV open error-Self diagnosis
E4 22	EEV close error-Self diagnosis
E4 40	High temperature(over 30°C)of ouldoor as heating mode
E4 41	Low temperatyre(under -10°C)at outdoor as cooling mode
E4 58	Outdoor Fan Error
E4 61	Inverter compressor starting failure(5times)
E4 62	Compressor trip by input current control mode(PFC over current)
E4 63	OLP Over Heat and Comp.stop
E4 64	IPM Over Current(a,c)
E4 65	Compressor Vlimit Error
E4 66	DClink Voltage error(under 150V,over 410V
E4 67	Compressor wire no-connecting error
E4 68	Current sensor error
E4 69	DClink Voltage sensor error
E4 71	EEPROM error
E4 72	AC ZERO CROSSING SIGNAL OUT error
E4 74	Outdoor heatsink sensor error
E4 83	Over AC-Voltage Error
E4 85	Input-Current sensor error
E5 00	Heatsink Over Heat error
E5 54	Gas leakage error

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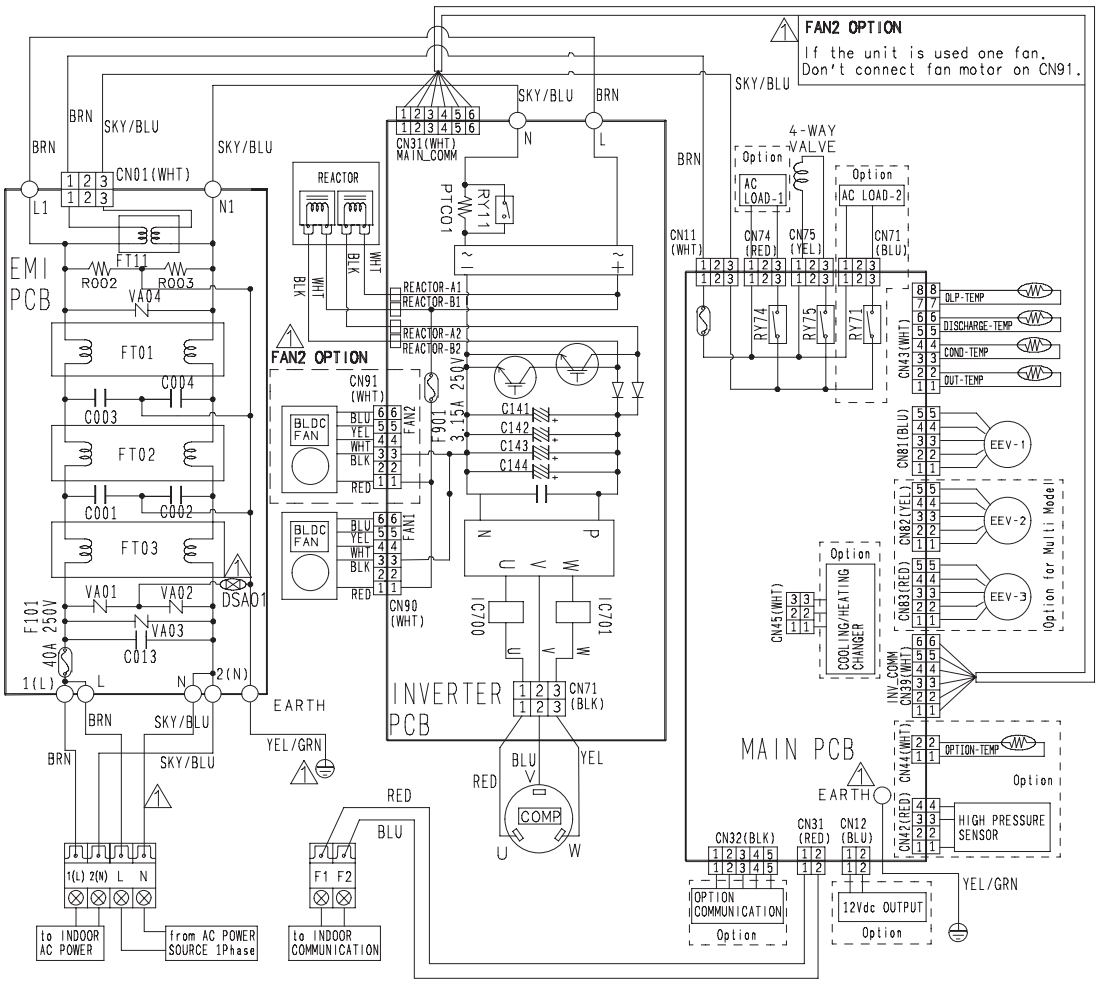
■ Outdoor Unit :

AC090FCADEH/EU AC100FCADEH/EU



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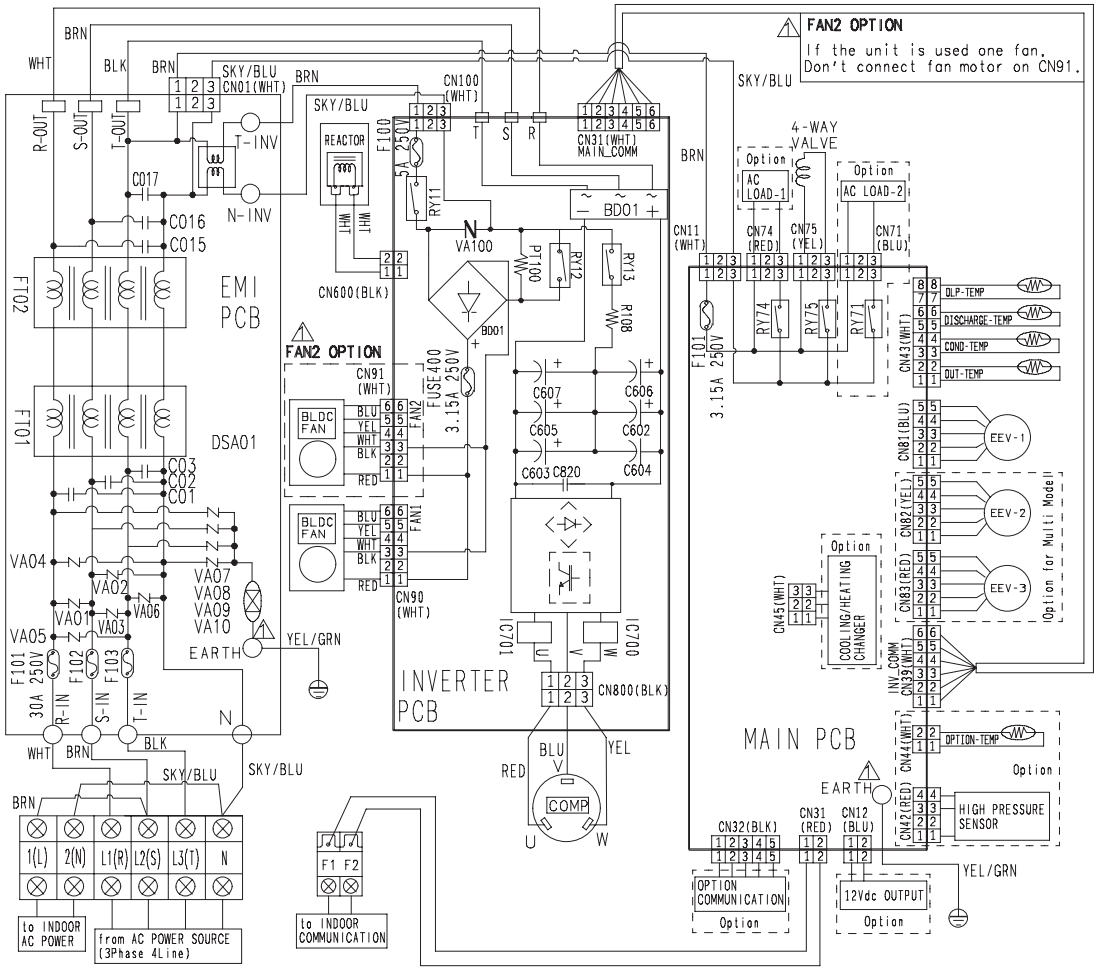
■ Outdoor Unit :

AC100FCADGH/EU



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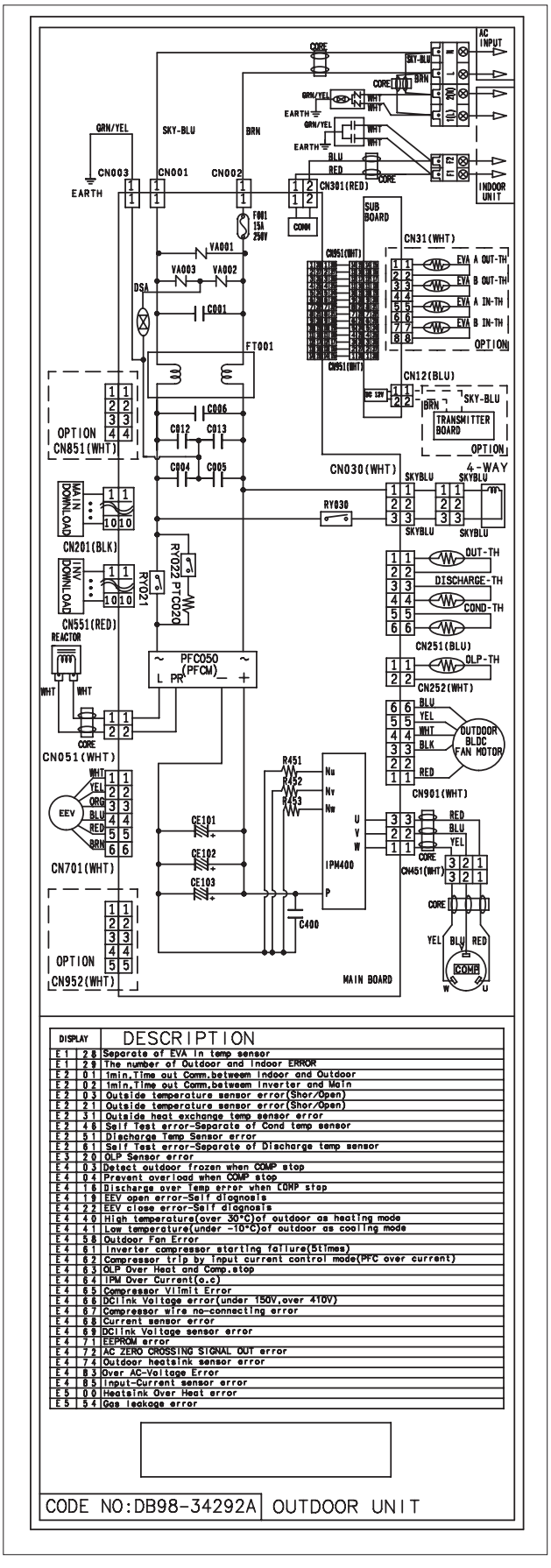
■ Outdoor Unit :

AC052FCADEH/EU



DISPLAY	DESCRIPTION
E1 28	Separate of EVA In temp sensor
E1 29	The number of Outdoor and Indoor ERROR
E2 01	1min.Time out Comm.betweem Indoor and Outdoor
E2 02	1min.Time out Comm.betweem Inverter and Main
E2 03	Outside temperature sensor error(Shor/Open)
E2 21	Outside temperature sensor error(Shor/Open)
E2 31	Outside heat exchange temp sensor error
E2 48	Self Test error-Separate of Cond temp sensor
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E3 20	OLP Sensor error
E4 03	Detect outdoor frozen when COMP stop
E4 04	Prevent overload when COMP stop
E4 16	Discharge over Temp error when COMP stop
E4 19	EEV open error-Self diagnosis
E4 22	EEV close error-Self diagnosis
E4 40	High temperature(over 30°C)of outdoor as heating mode
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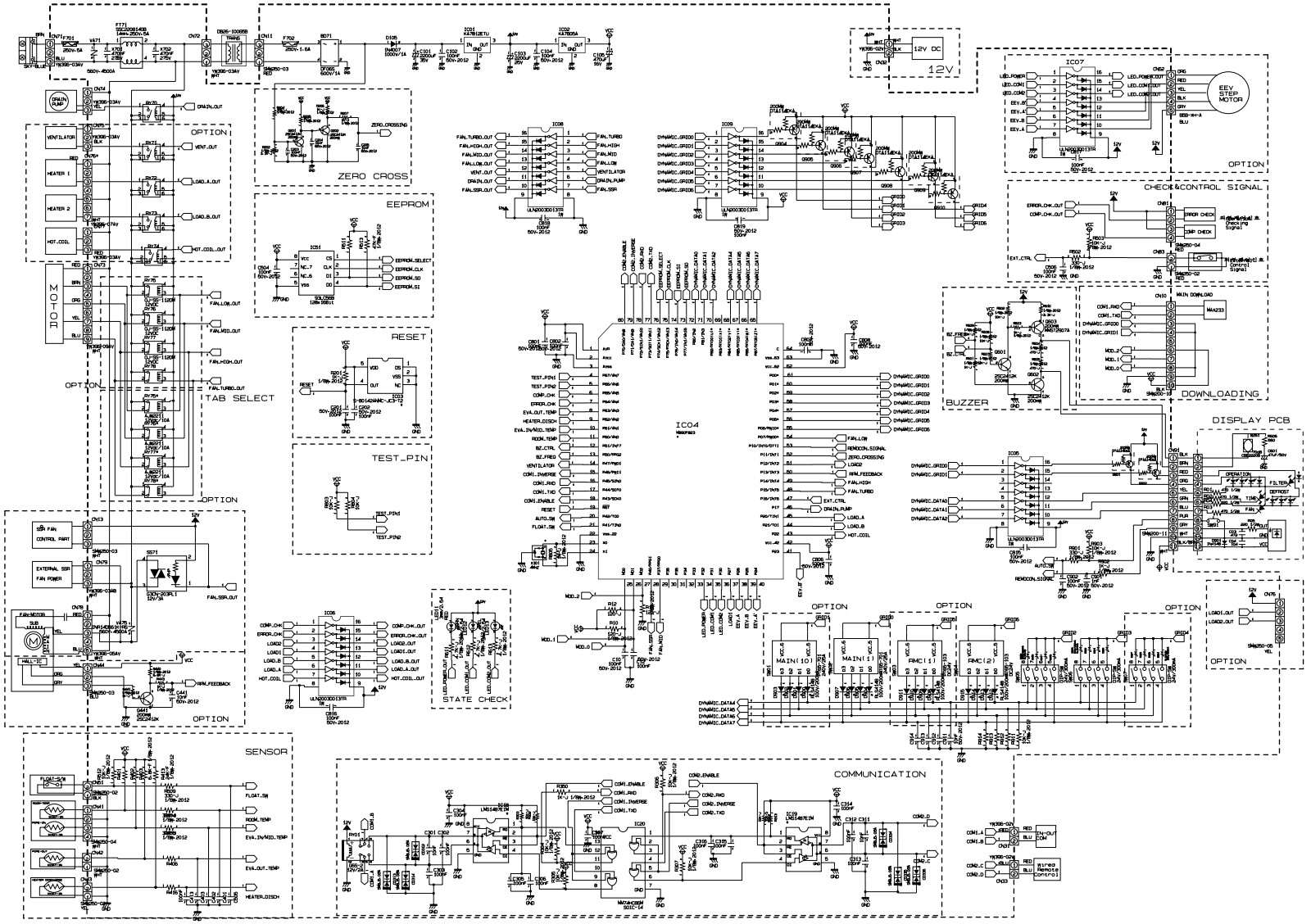
E4 58	Outdoor Fan Error
E4 61	Inverter compressor starting failure(5times)
E4 62	Compressor trip by input current control mode(PFC over current)
E4 63	OLP Over Heat and Comp.stop
E4 64	IPM Over Current(a.c)
E4 65	Compressor Vlimit Error
E4 66	DClink Voltage error(under 150V,over 410V)
E4 67	Compressor wire no-connecting error
E4 68	Current sensor error
E4 69	DClink Voltage sensor error
E4 71	EEPROM error
E4 72	AC ZERO CROSSING SIGNAL OUT error
E4 74	Outdoor Heatsink sensor error
E4 83	Over AC-Voltage Error
E4 85	Input-Current sensor error
E5 00	Heatsink Over Heat error
E5 54	Gas leakage error

7. Schematic Diagram

7-1 Indoor Unit

7-1-1 -1MAIN PCB



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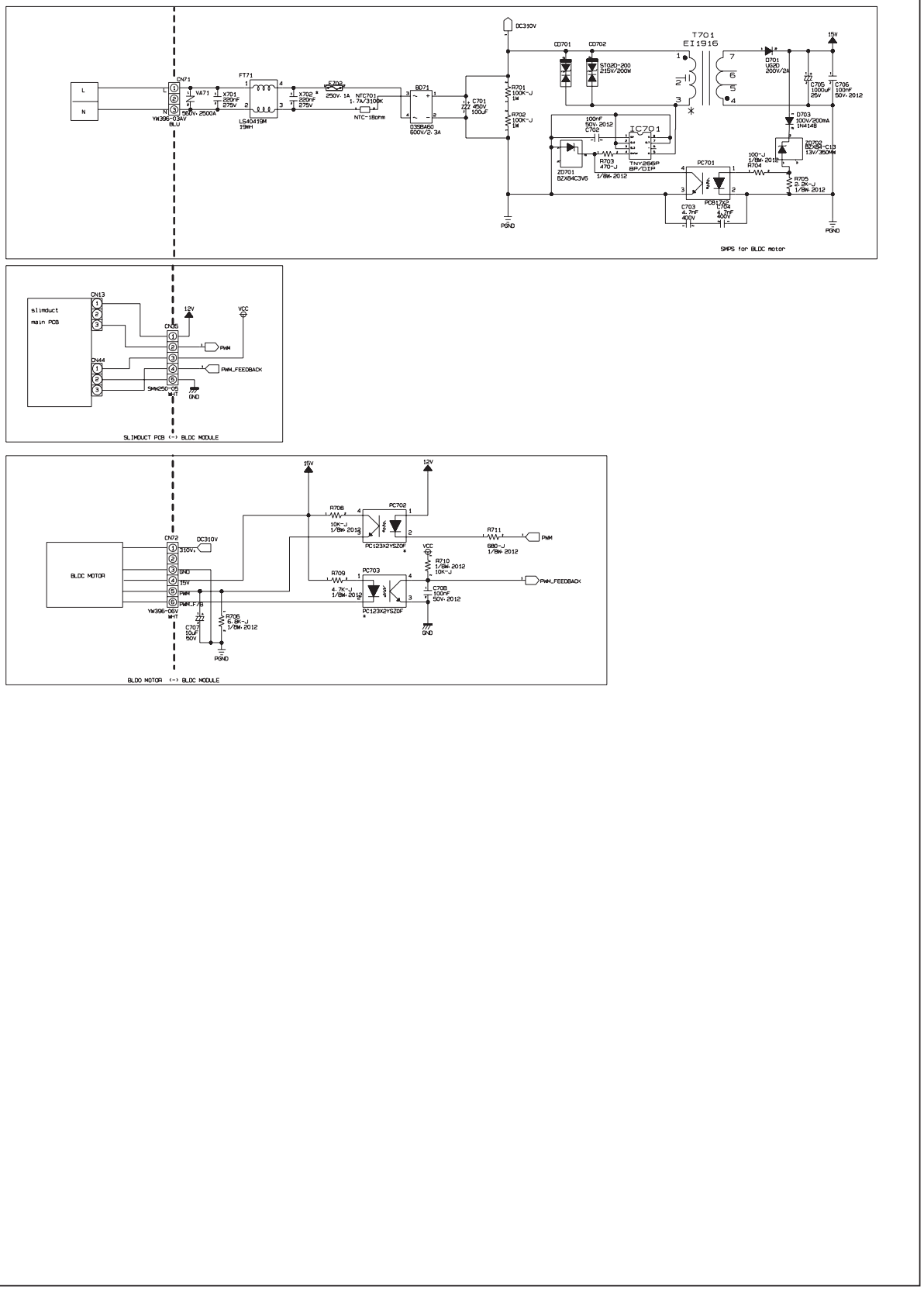
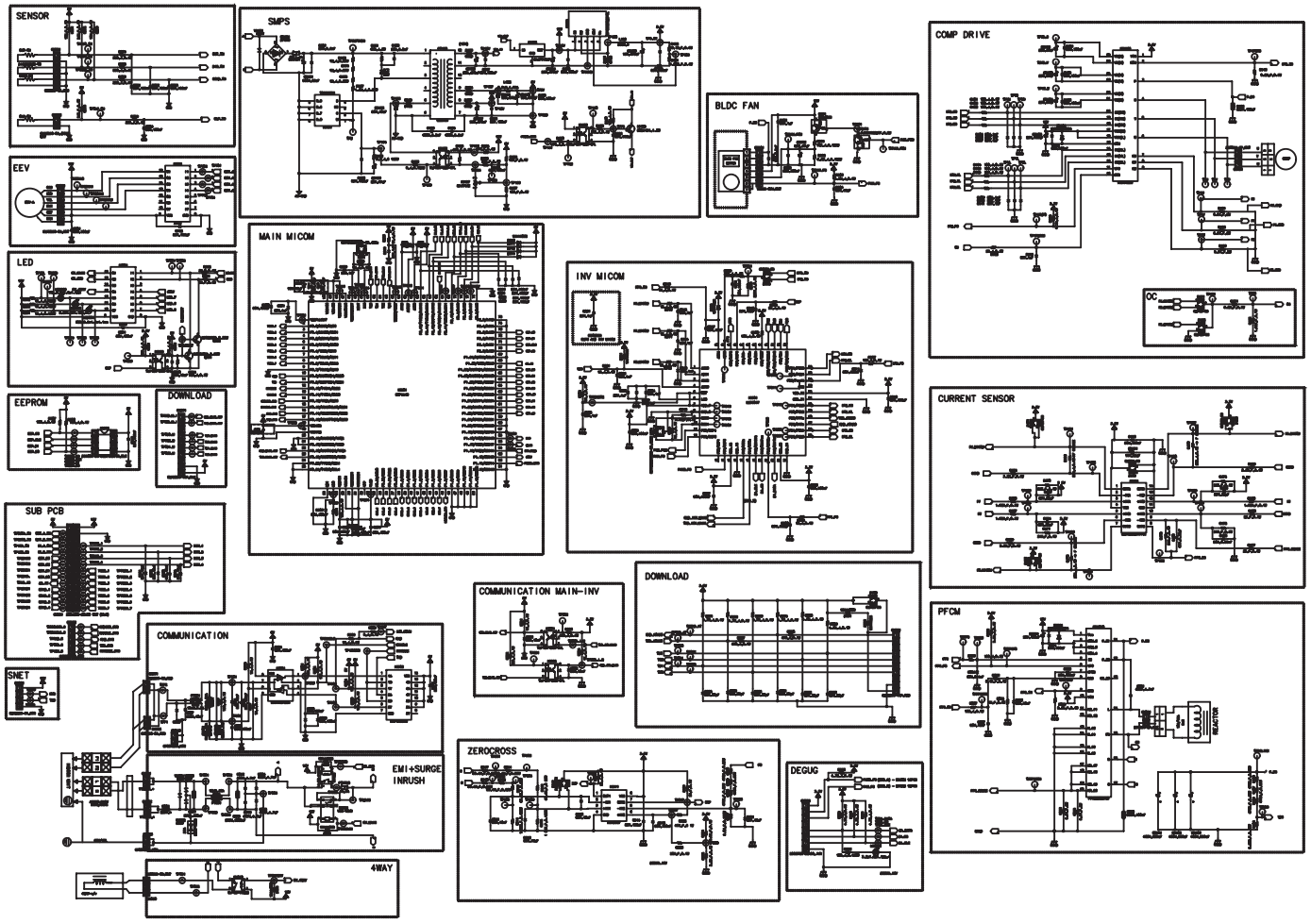
7-1-1-2MAIN PCB



7-1-2 OUTDOOR UNIT PCB

■ **MAIN PCB :**

AC052FCADEH/EU



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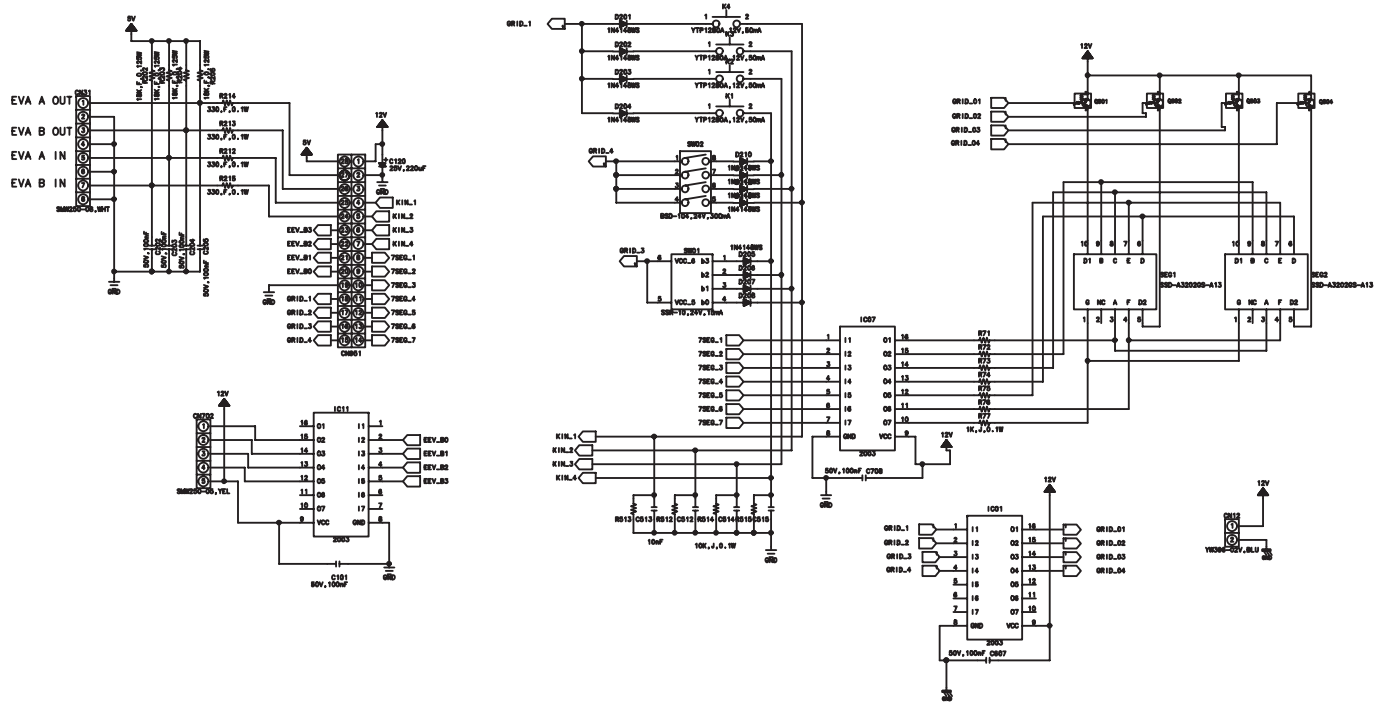
OUTDOOR UNIT PCB (cont.)

■ **SUB PCB:**

AC052FCADEH/EU



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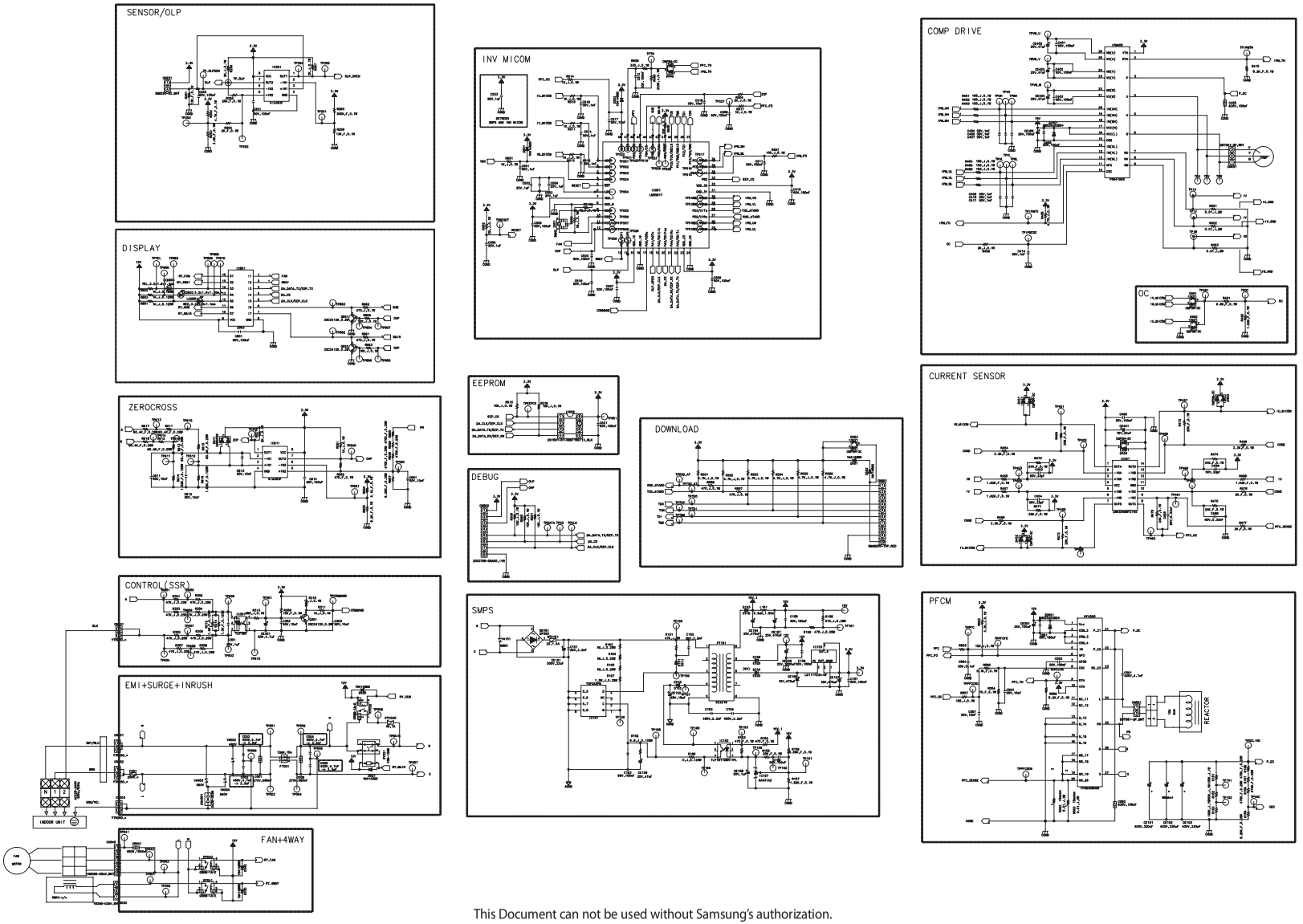
■ MAIN PCB :
AC071FCADEH/EU



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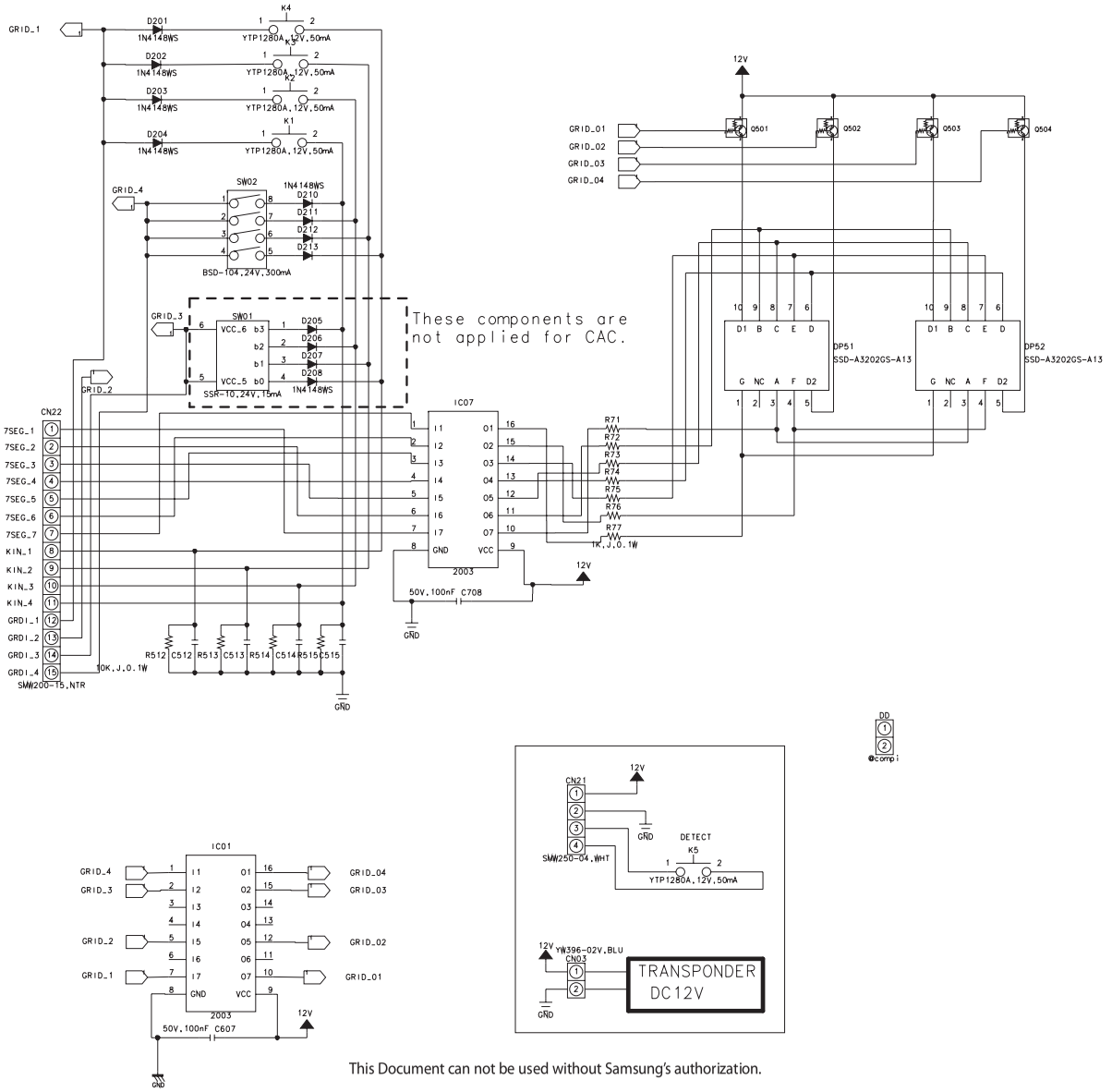
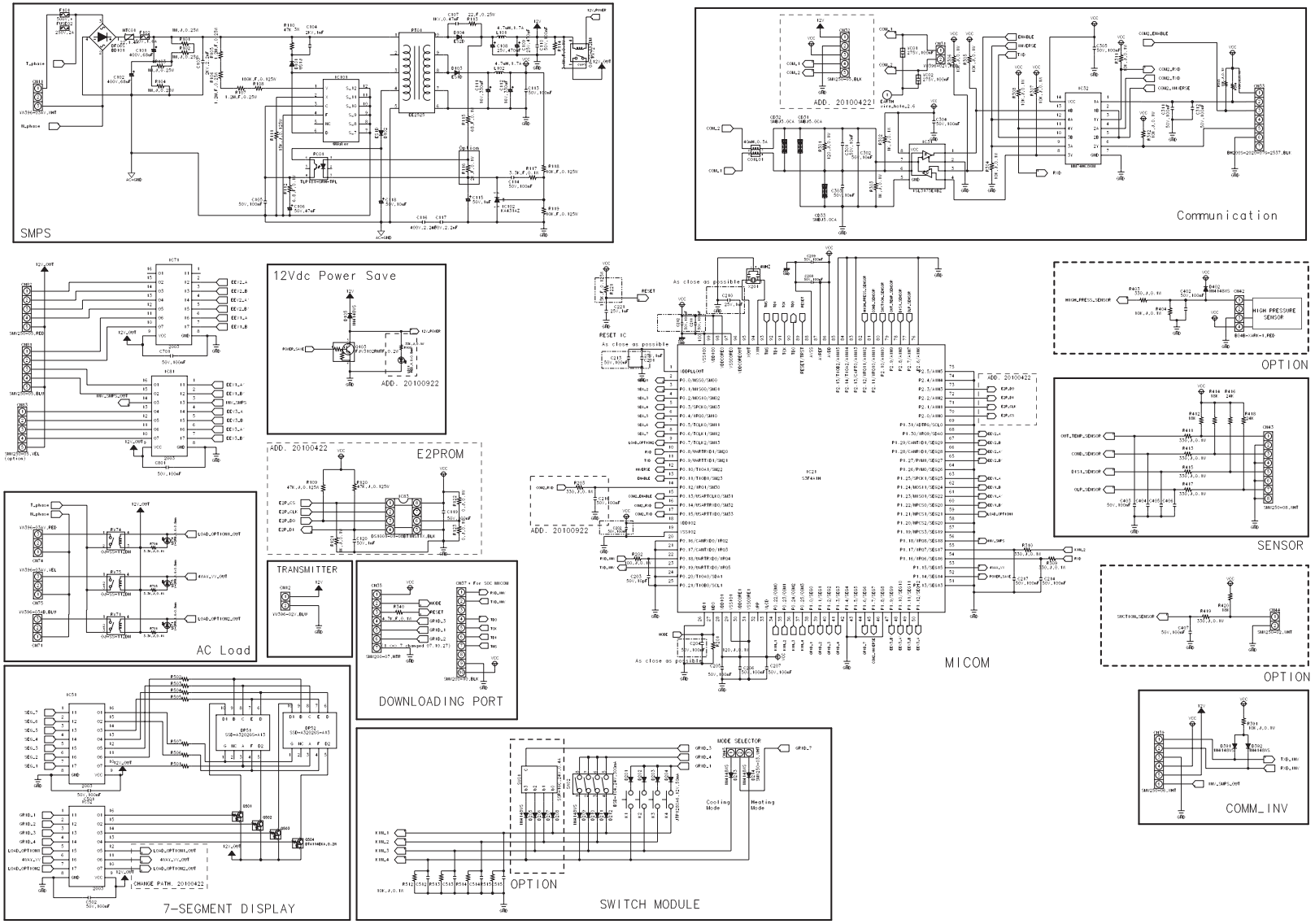
■ MAIN PCB :
AC071FCADEH/EU



■ MAIN PCB :

AC090FCADEH/EU AC100FCADEH/EU AC100FCADGH/EU



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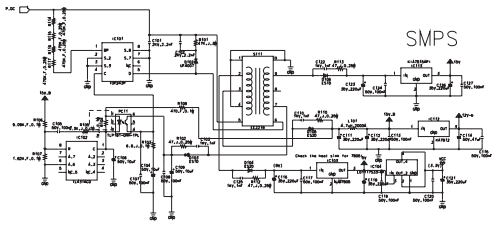
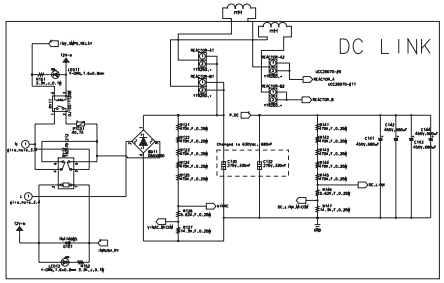
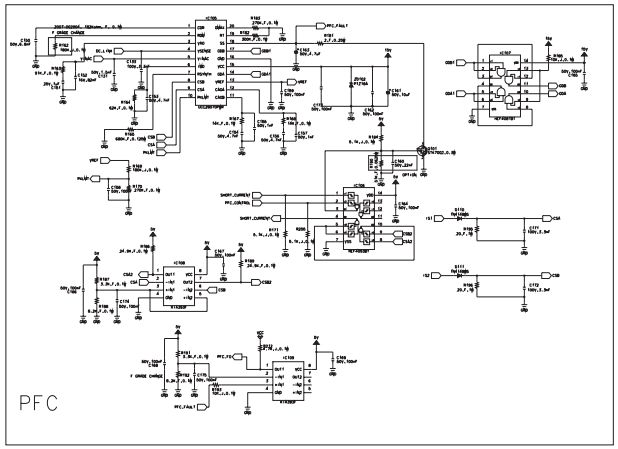
OUTDOOR UNIT PCB (cont.)

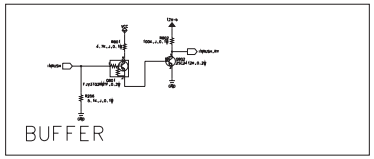
■ **Inverter PCB : 1Phase I**

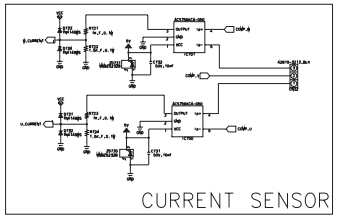
AC090FCADEH/EU AC100FCADEH/EU

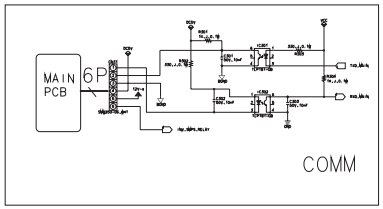


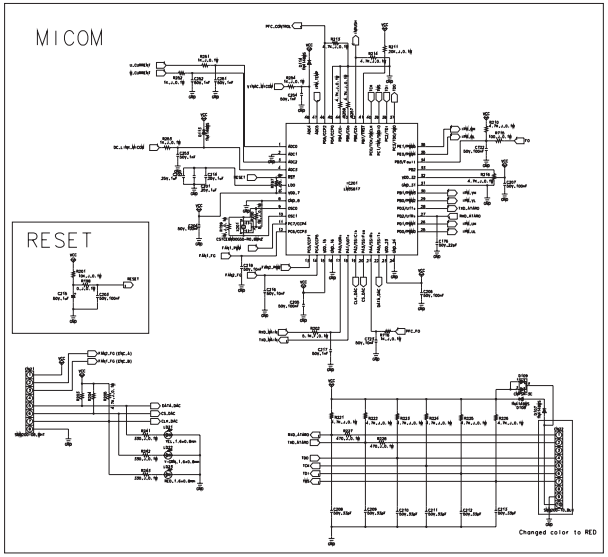


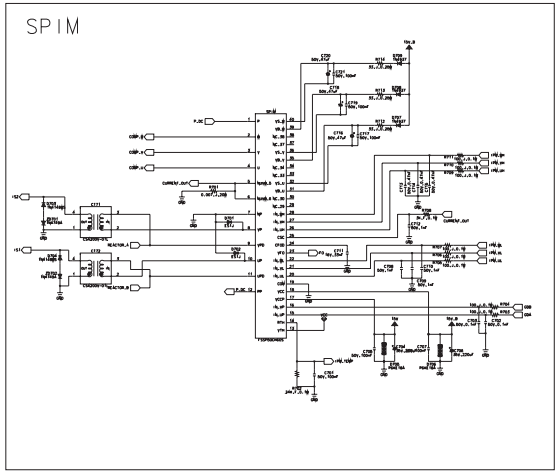


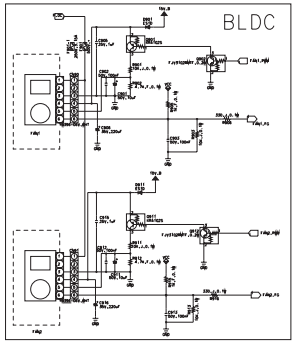












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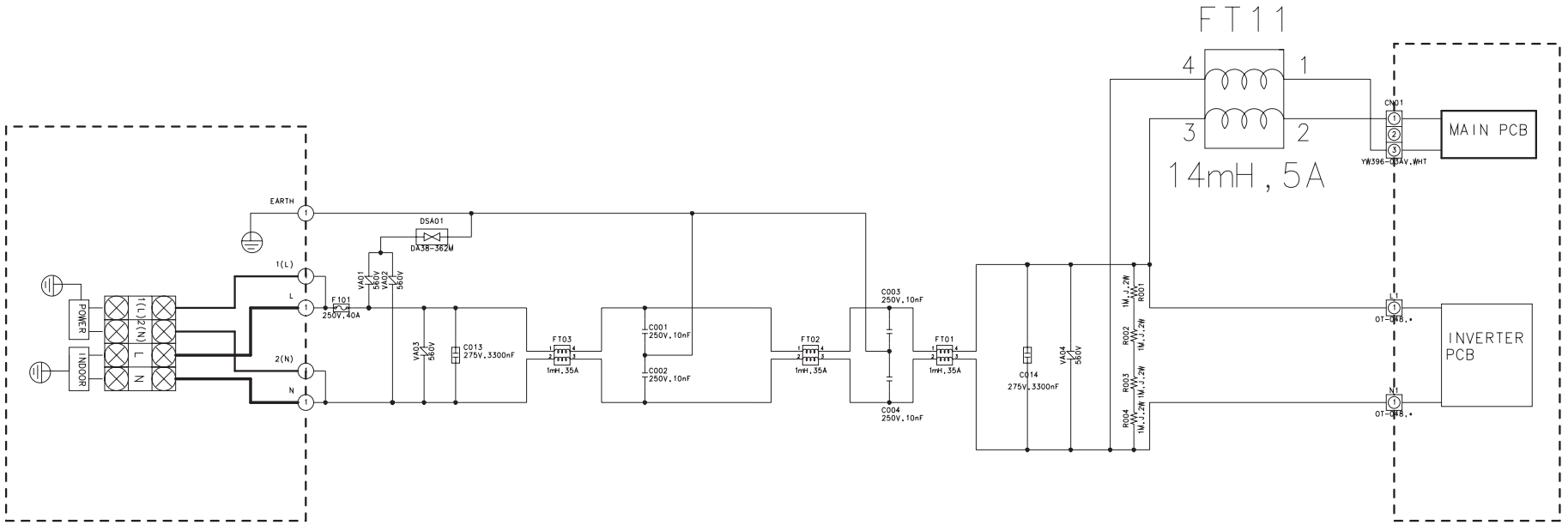
OUTDOOR UNIT PCB (cont.)

■ **EMI PCB : 1Phase**

AC090FCADEH/EU AC100FCADEH/EU



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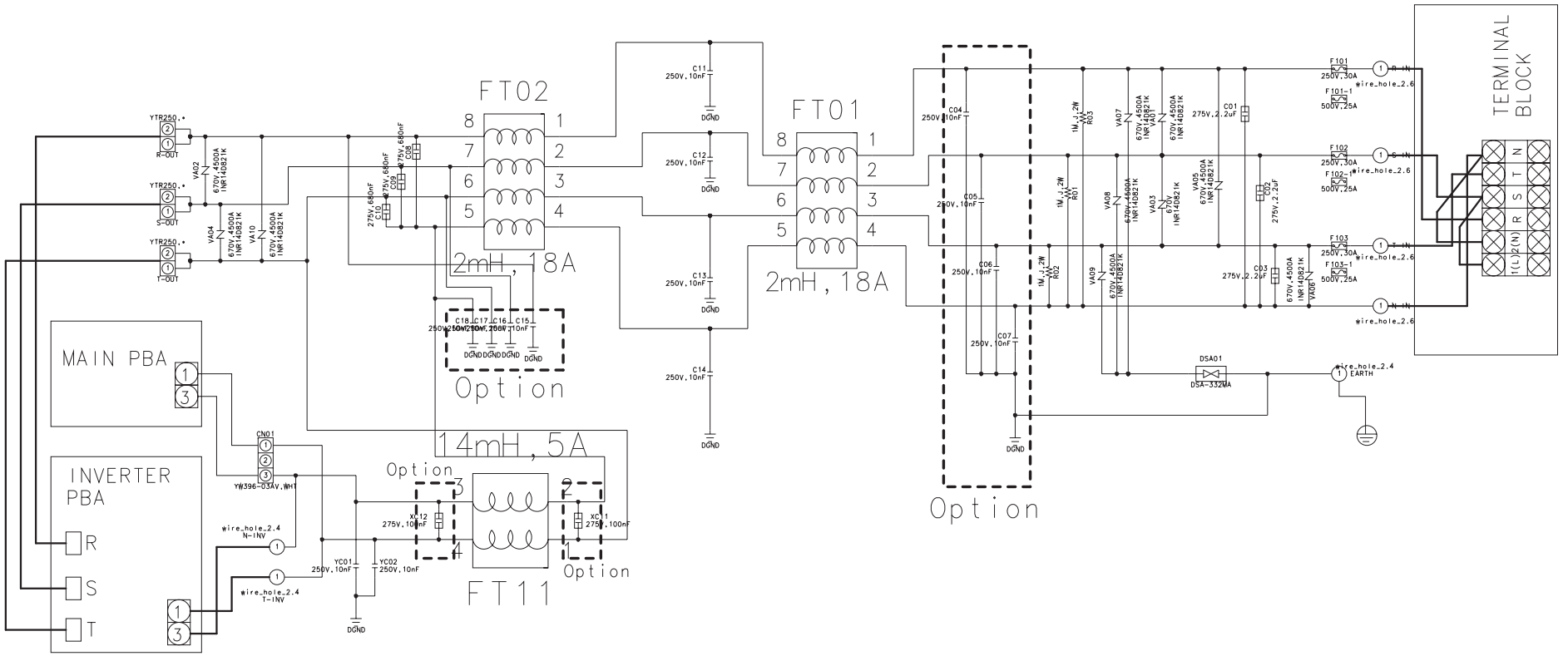
OUTDOOR UNIT PCB (cont.)

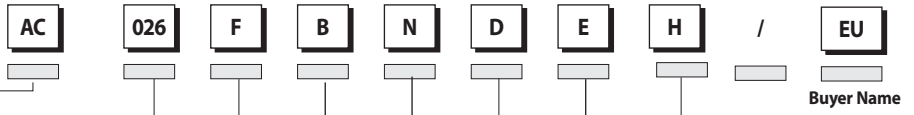
■ **EMI PCB : 3Phase**

AC100FCADGH/EU



8. Reference Sheet

8-1 Index for Model Name



Model Code

Capacity (3 DIGIT)
KW / BTU / Liter

Product Type	
Code	Type
E	2012
F	2013
G	2014
H	2015
I	2016
J	2017

Rating Voltage	
Code	Type
A	A(115V, 60hz, 1Φ)
B	B(220V, 60Hz, 1Φ)
C	C(208~230V, 60Hz)
D	D(200~220V, 50Hz)
E	E(220~240V, 50Hz)
F	F(208~230V, 60Hz, 3Φ)
G	G(380~415V, 50Hz, 3Φ)
H	H(380V, 60Hz, 3Φ)
J	J(460V, 60Hz, 3Φ)
K	K(220~240V, 50/60Hz, 1Φ)
M	M(127V, 50Hz)
N	N (380~415V, 50/60Hz, 3Φ)

Product Type	
Code	Type
AM	DVM
AJ	PMA
AC	CAC (USD) / ASD
AE	EHS
AN	VTL
AK	PAK (Packaged System)
AG	CHR

Product Type	
Code	Type
S	Set (NASA)
N	Indoor (NASA)
X	Outdoor(NASA)
A	Set (NASA)
B	Indoor (No NASA)
C	Outdoor (No NASA)

Refrigerant		
Code	Type	Refrigerant
C	COOLING ONLY	R410a
H	HEAT PUMP	
R	HEAT RECOVERY	
D	COOLING ONLY	R22
E	HEAT PUMP	
A	Cooling only	R134
B	Heat Pump	
N	N/A	

Product Type (Indoor)	
Code	Type
1	1 WAY CST
2	2 WAY CST
N	MINI 4 WAY CST
4	4 WAY CST
H	HSP DUCT
M	MSP DUCT
L	LSP DUCT
E	FRESH AIR INTAKE DUCT
G	CEILING CONCEILED DUCT
C	CEILING
J	CONSOLE
F	FLOOR MOUNTING
P	FAC

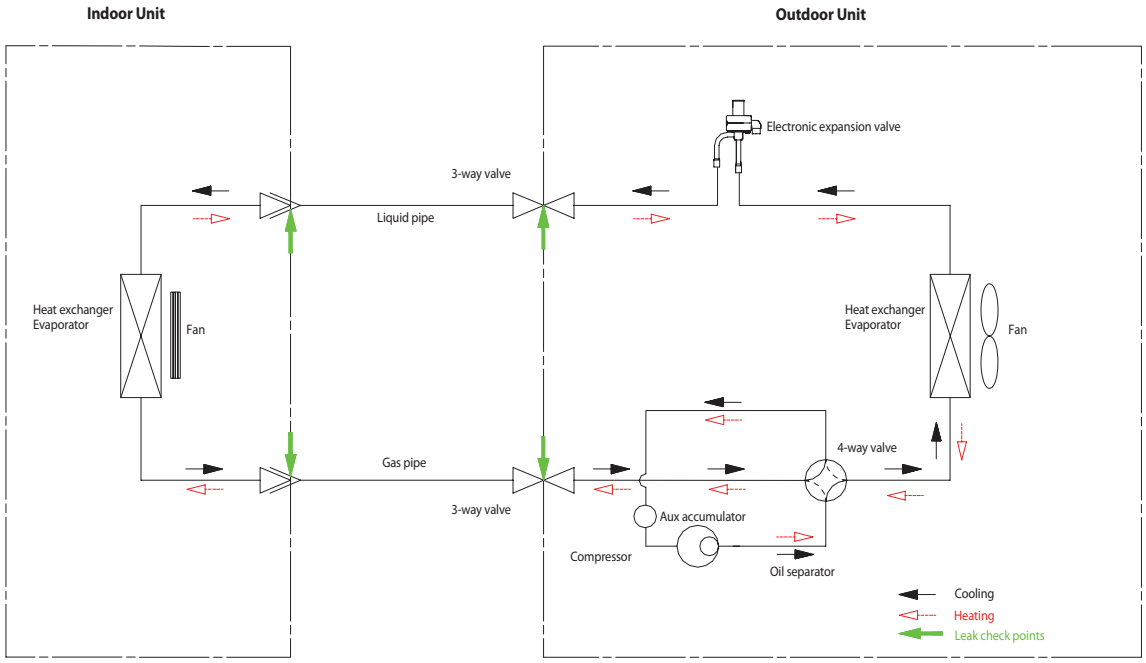
Product Type (Outdoor)	
Code	Type
A	Inv+Side+General Temp
S	Inv+Side+Low Temp
Q	Inv+Side+Tropical Temp
F	Inv+Top+Tropical Temp
B	Non Inv+Side+General Temp
N	Non Inv+Side+Low Temp
R	Non Inv+Side+Tropical Temp
Z	Non Inv+Top+Tropical Temp

Product Type (Indoor)	
Code	Type
F	FLAGSHIP
P	PREMIUM
D	DELUXE
S	STANDARD

Product Type (Outdoor)	
Code	Type
A	STANDARD+GENERAL Temp.+MODULE
B	STANDARD+LOW Temp.+MODULE
C	STANDARD+ TROPICAL+MODULE
D	STANDARD+GENERAL Temp.+NON MODULE

he buyer card if there are not enough digits.

8-2 Refrigerating Cycle Diagram



■ CONDENSER

High temperature and high pressure gas state coolant discharged from the compressor is converted to a liquid state as it is cooled down by the heat emission in the outdoor condenser unit, and sent to the evaporator.

■ COMPRESSOR

Low temperature and low pressure coolant is compressed and sent to the cycling system

■ EVAPORATOR

Liquid coolant sucked in through the capillary tubes cools down the room by absorbing the surrounding heat as it evaporates (converting from liquid to gas). (Absorbing heat required for evaporation)

■ SERVICE VALVE

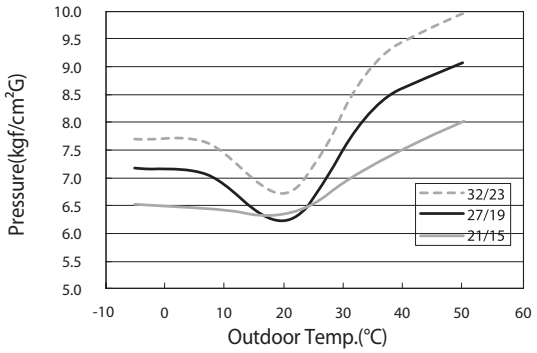
You can open the valve by turning the need valve counterclockwise using hex wrench, and it is used for vacuum, gas purging, coolant injection, coolant purging, and indoor-outdoor unit connection.

■ ACCUMULATOR

Accumulator prevents the flow of liquid-state coolant into the compressor. (Liquid-state coolant flowing into the compressor will overload the compressor.)

8-3 Pressure Graph

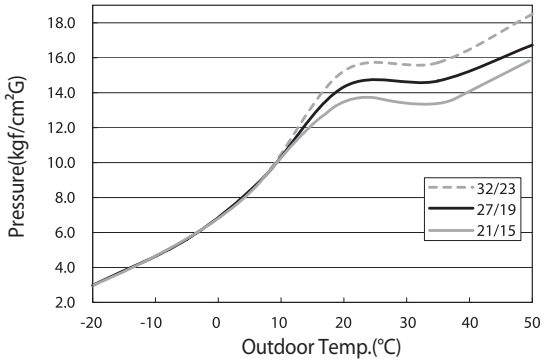
Cooling



■ **Cooling**

Outdoor(℃) \ Indoor (℃)	32/23	27/19	21/15
50	10.0	9.1	8.0
35	9.0	8.3	7.2
20	6.8	6.3	6.4
7	7.6	7.1	6.5
-5	7.7	7.2	6.5

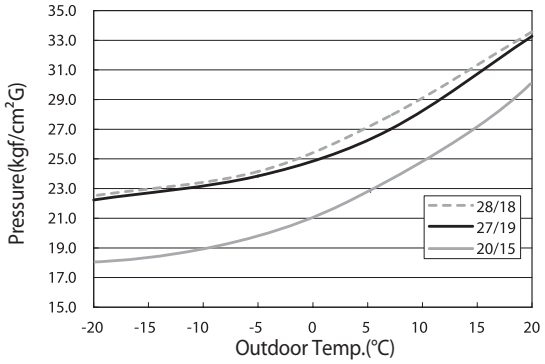
Waiting Mode



■ **Waiting Mode**

Outdoor(℃) \ Indoor (℃)	32/23	27/19	21/15
50	18.5	16.7	15.9
35	15.7	14.7	13.4
20	15.2	14.3	13.6
7	9.1	9.1	9.1
-5	5.6	5.6	5.6
-20	3.0	3.0	3.0

Heating



■ **Heating**

Outdoor(℃) \ Indoor (℃)	28/18	27/19	20/15
20	33.6	33.3	30.1
7	27.9	27	23.5
-5	24.2	23.9	19.9
-20	22.5	22.2	17.9

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